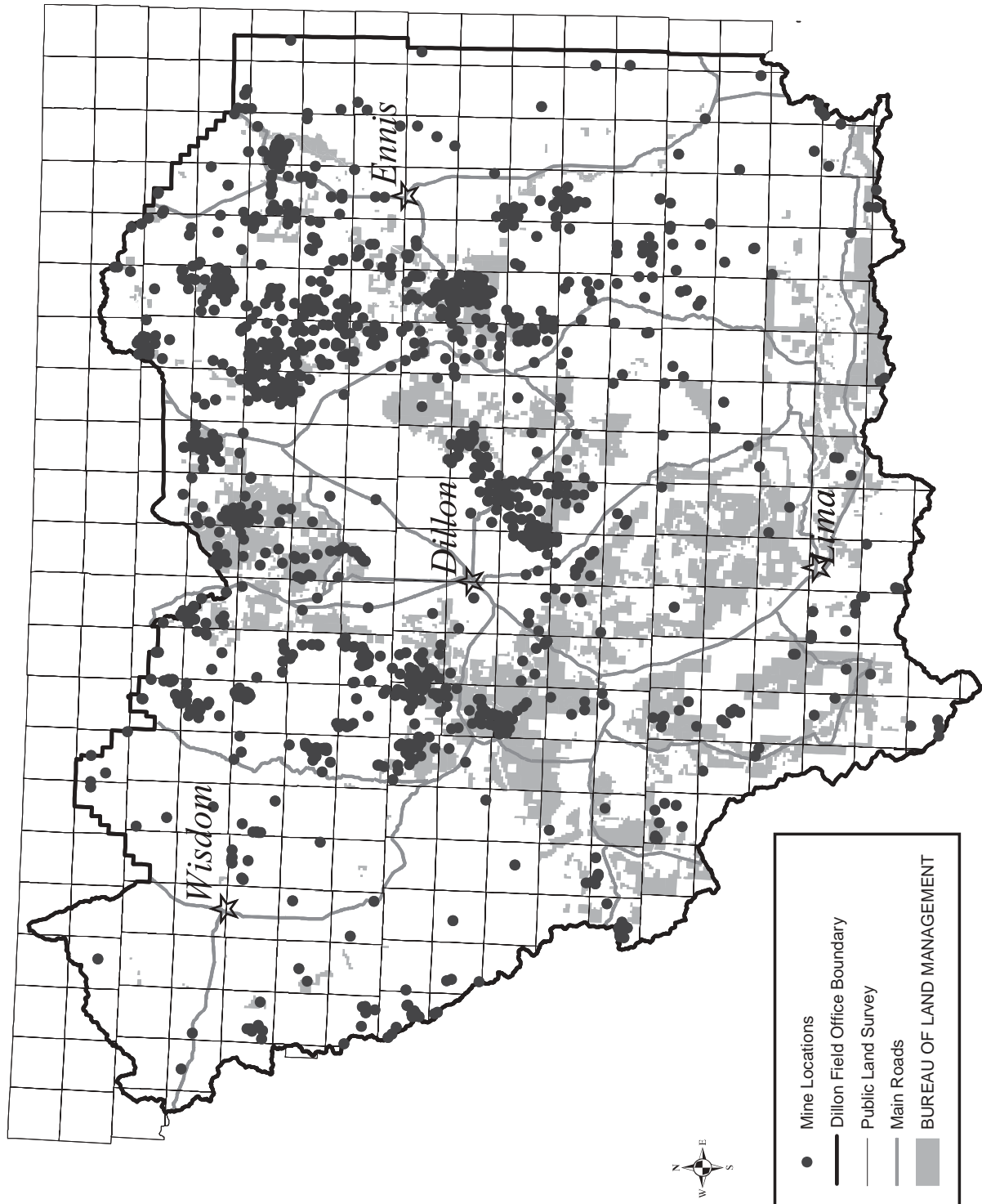


APPENDIX H MINERALS

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Mine Locations Across Dillon Field Office



No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM. Map intended for display purposes only.

STANDARD OPERATING PROCEDURES FOR MINERAL MATERIAL SITES

Before establishing a new community pit, free use area, collection area or exclusive sale, a Plan of Operation and a Reclamation Plan will be prepared. The appropriate NEPA analysis will also be completed.

When appropriate and necessary a reclamation bond will be collected.

Reclamation and management of the site will when appropriate consist of the following:

- Suitable topsoil, subsoil, or underlying soil parent material that is suitable for plant growth will be removed and stored for site restoration.
- Topcover stockpiles will be stabilized in order to prevent erosion and dust.
- The area will be fenced to exclude livestock, promote revegetation, increase safety and reduce theft.
- A weed control plan will be developed or weed control will be addressed in the Plan of Operation.
- Purchasers of material will be warned of potential weed seeds.
- The pit walls will not exceed a safe working angle.
- Reclaimed slopes will not exceed 2.5:1 (h:v).
- Disturbed areas will be reclaimed to blend as closely as possible with natural contours.
- Final blending to natural contours should be considered and incorporated into the Plan of Operation.
- Stockpiled topcover will be replaced as soon as practically possible.
- Disturbed areas will be scarified (where necessary) and reseeded as soon as possible in order to reduce erosion, dust and visual effects.
- Measures may need to be taken to reduce visual effects. Visual effects should be considered and incorporated into the Plan of Operation.
- A seed mix approved by BLM and appropriate for the area will be used.
- Erosion controls will be incorporated into the Plan of Operation.
- If dust becomes excessive, measures will be taken to reduce the hazard.
- The site will be returned to as close as possible to the "Post Mining Land Use"
- All remaining litter or trash shall be removed from the site.

SUMMARY OF THE REASONABLE FORESEEABLE DEVELOPMENT SCENARIO FOR OIL AND GAS

INTRODUCTION

The reasonable foreseeable development (RFD) scenario is an estimate of the oil and gas activity expected because of resumed oil and gas leasing in the Dillon FO. The scenario is hypothetical in that drilling may occur anywhere in the planning area where an oil and gas lease is issued that allows surface occupancy. Probably, actual drilling proposals that result from leasing, if any, will differ in location from the RFD scenario proposals. It is also possible that leasing could result in either more or less drilling proposals than presented in the RFD scenario.

The RFD scenario attempts to portray the most reasonable and likely number of wells expected from a leasing decision on the Dillon FO. It is derived from knowledge of the USGS plays, Energy Information Administration (EIA) price forecasts, the oil and gas occurrence and development potential classifications for the Dillon FO, and historical activity.

Development potential is a ranking system which is created so the potential cumulative impacts of an oil and gas leasing decision on a designated area can be evaluated. Bureau of Land Management petroleum geologists rank the development potential of the planning area based on the probability, at this point in time, of oil and gas exploration, production, and associated infrastructure occurring in the future. It is important to understand that development potential is a dynamic ranking system, which changes with time as new data and ideas become available. While the geology does not change, the perception of the geology can change.

DRILLING ACTIVITY FORECAST

In order for the BLM to analyze the effects of oil and gas leasing and subsequent possible exploration and development, we had to complete the best possible analysis of how many wells industry might drill in the next 10 to 15 years. The BLM has developed an RFD scenario using historical oil and gas development information from the United States Geological Survey, BLM files, and other technical sources.

BLM has mapped the potential of occurrence of oil and gas under Madison and Beaverhead Counties and the potential for industry to develop those possible resources. The classification of the development potential is depicted on Map 83 in the RMP. From these maps and other information, including leasing history and past and present economics, the BLM forecasts how many wells might be drilled in all of the two counties on all mineral ownerships.

Based on our analysis, we estimate that six wildcat wells could be drilled in the area in the next 10 to 15 years. (A “wildcat well” is an exploratory well drilled in an area with no existing production.) Of these six wells, we estimate that four would be dry holes. (If no economically producible oil or gas is discovered, a well is called a “dry hole” or “noncommercial discovery.”) Dry holes would be plugged and abandoned with surface reclamation occurring shortly afterward. For analysis purposes, we believe that two of the wells could likely have gas discoveries (however there is also a lower chance of oil production). One producer would be on either BLM minerals or lands administered by the Forest Service. The other would be on privately owned minerals. Each of those wells would probably prompt additional step-out wells. (A “step-out well” is a well drilled adjacent to or near a proven well to establish the limits of the oil or gas reservoir.) For analysis purposes, we estimate that a total of four step-out wells would be drilled, two for each discovery.

The general areas where exploration might occur in the two counties are depicted on Map 83 in the RMP. We forecast that the six projected wildcat wells would be drilled somewhere within the boundaries of these four areas. Area #1 is referred to as “Big Hole Basin.” This area consists of the Big Hole Tertiary graben basin. This basin is floored by Middle Eocene volcanic rock. These rocks are unconformably overlain by late Eocene to Miocene devitrified volcanoclastic and lacustrine rocks associated with locally derived clastic rocks. In the Big Hole Basin this sequence is overlain by Miocene and younger predominately coarse siliclastic sediments. Basin fill is up to 15,000 feet thick in the Big Hole Basin. Anticipated reservoir rocks are sandstones of Oligocene to Miocene age. Source rocks are late Eocene to Oligocene in age. Natural gas has been encountered in wells drilled in the Basin. A 14,000 foot gas discovery is predicted in this area. An additional two wells are expected on 640 acre spacing. This forecast is based on the existing geologic perception of the area and is our best projection of reasonably foreseeable development.

Area #2 includes the Beaverhead River basin around the town of Dillon, the Retort Mountain area, the Armstead thrust area and the Blacktail salient area. It is referred to as “Dillon”. The center of the northern part of the area in, T. 8 and 9 S., R. 9, 10, and 11 W., appears to be complicated by imbricate thrust faults. The best hydrocarbon shows in the area occur here. The well in sec. 9, T. 9 S., R. 9, W., Ameri-

can Quasar 9-1 May-Federal drilled to 4,351 feet and reported Cambrian at 3,444 feet. A subsequent examination of the samples showed an age date of upper Mississippian Chester at 2,800 feet to total depth, Heath-Otter equivalents. The drill stem test at 2,569 feet to 2,654 feet, which recovered a small amount of free gas, appears to be in Pennsylvanian Amsden rocks. Another test at 2,675-2,750 recovered gas-cut mud. Seven-inch casing was set at 2,826 feet and a completion attempt in a number of Amsden zones failed to recover commercial gas. Several older, shallower wells were drilled 3 to 5 miles northeast. One reported an oil show. These wells were 100 feet, 1,800 feet and 2,500 feet deep. It is not known what interval may have had the oil show. When BLM geologists mapped this general area they determined that there was a large area of “MODERATE” development potential based in part on the presence of adequate sediments with source and reservoir potential and the existing drilling results. A dry hole well is predicted near Jim Brown Mountain at about 5,000 feet depth in Permian or Pennsylvanian rocks on BLM minerals. This well would be drilled and abandoned. One other wildcat resulting in another dry hole is projected for Area 2.

Area #3 includes the Tendoy overthrust area and a foreland zone east of the thrust sheet and also a Cretaceous foreland basin at the south end of the Tendoy Mountains. It is referred to as “Lima”. A well with a good show of sweet gas in Mississippian rocks, has been drilled in this Cretaceous basin and a gas field could be expected to be developed on 640 acre spacing in the area. The northern and north central portions of this area have had recent strong leasing interest. This is the general area that has potential for oil production. Two wildcats are expected; one dry hole and one discovery well. The result is predicted to be a three well gas field covering about 2,000 acres. Drilling depth is about 13,500 feet and much of this field will be on Forest and/or BLM minerals. This forecast is based on the existing geologic perception of the area and is our best projection of reasonably foreseeable development.

Area #4 consists of the Gravelly Range and the Snowcrest Trough to the south and east of the Gravelly Range. This area is referred to as the “Gravelly.” One 11,000-foot exploratory well is projected to be drilled on National Forest System land in this area and found to be a dry hole. This well would be drilled and abandoned. The Gravelly Range is a west dipping sequence of rocks from Precambrian Archean age up into the Cretaceous Montana Group age. In the south and central portions of the Gravelly Range total thickness of post Precambrian sediments is about 12,000 feet. The interval from the top of the Permian to the Precambrian is about 5,000 feet. The primary targets for oil and gas exploration are probably in this interval. The dipping sediments of Cambrian through Cretaceous age are repeated by thrust faulting. Structural traps are probable beneath the thrust. The possibility exists of testing an upper Paleozoic trap on the hanging wall block and a Creta-

ceous Colorado Group through Cambrian structure in the foot wall block of about 11,000 feet. One dry well tested the southern part of this subpart of Area #4. In 1970 Union Texas Petroleum drilled the #1 Metzel-Federal, in the NW1/4NW1/4 Sec. 5, T. 13S., R. 2 W., to a total depth of 4,125 feet into the Cambrian Park Shale. Possible source beds were identified in the well, although they may be too shallow and thermally immature to have generated and expelled hydrocarbons. Possible reservoirs were also noted.

The other part of Area #4 lies south and west of the Gravely Range. This is the Permian to upper Mississippian Snowcrest depositional trough. It is bounded on the south and east by the Snowcrest Thrust Fault. This area has been classified as having both moderate occurrence and development potential except for an area around an igneous intrusion in T. 11 S., R. 5W. It contains good source beds of Permian through upper Mississippian ages.

This forecast is somewhat different than that adopted by the Forest Service for their oil and gas leasing EIS for the Beaverhead National Forest. It is noted that the forecast for the Beaverhead EIS only covered lands administered by the US Forest Service. Also, that document projected all wells as if they would occur on National Forest System lands. The BLM forecast examined all of Beaverhead and Madison Counties. The BLM forecast was completed several years after completion of the forecast for the Beaverhead EIS. During that time the economic outlook for the oil and gas industry has changed along with the completion of a dry hole in the area. The BLM is not able to forecast the exact locations for wells that might be drilled in the future. This is a matter that future Federal oil and gas lessees will decide for themselves based on their own more detailed analysis of the geologic and geophysical data that they will collect before drilling. Nor does the BLM have any control on the location of wells drilled on private lands if the minerals are not owned by the Federal government. The location of new wells will also be strongly influenced by lease stipulations developed in this plan amendment. Location of wells on the Beaverhead National Forest would be controlled in large part by the stipulations that were developed in their oil and gas leasing EIS. The Dillon RMP/EIS does not address leasing decisions on National Forest System lands. It must be understood that drilling may occur outside of the four areas described above. Possible environmental effects will also be analyzed in those areas. By looking at what could happen if wells were drilled in the indicated areas, the BLM can predict and extrapolate possible environmental effects throughout the study area, especially where sensitive resources are located and development potential is either "LOW" or "MODERATE."

In addition to the four areas noted above, the reader will note that there is an area of moderate development potential located on the map of the project area along the trend of the Madison River valley. The BLM is not postulating any drill-

ing in this area for the life of this planning document. Two wells have been drilled within the boundaries of the Madison River graben. No oil or gas shows were noted in either well. Gravity measurements indicate a valley fill thickness of up to 12,000 feet at a point about two miles from either well. The part of the graben with the greatest thickness is shown on internal BLM reports as being on the Hebgen Lake Quadrangle commencing about 1 -1/4 miles south of the Ennis Quadrangle boundary and continuing southeastward for a distance of about 7 -1/2 miles. In this area valley fill is estimated from gravity data to be 15,000 feet or more. From this depocenter, the Tertiary thickness decreases northward. About three miles east of Ennis, the Tertiary thickness is about 7,500 feet. The potential for hydrocarbons, probably gas, may be theorized for the Tertiary sediments at the greater depths than encountered in the two wells. Their bottom-hole temperatures were 144° F and 141° F, respectively. Calculated geothermal gradients for these wells of 1.12° F/100 ft. to 1.55° F/100 ft. indicates that depths of approximately 12,900 feet to 17,900 feet would be needed to approach 200° F (the approximate top of the "oil window" temperature which allows for the early generation of hydrocarbons from organic sources). This approximation suggests that most of the sediments in the Madison River Valley are immature for thermogenic hydrocarbon generation because they are shallower than these depths, and that the potential for gas is therefore focused on biogenic methane gas at cooler temperatures at shallower depths.

SURFACE ACTIVITY DESCRIPTION

This part of the Reasonable Foreseeable Development Scenario includes information to characterize the type of disturbance projected. The first section predicts the number of acres of ground surface disturbance resulting from exploration and field production activities, regardless of surface ownership. The calculation of acres disturbed relies upon assumptions derived from past exploration activity in the Dillon Field Office (DFO) and existing production from overthrust belt fields. All calculations assume a maximum acreage figure for analysis purposes if past activities show a range (e.g., 3.5 acres would be used if the range is 2.5-3.5 acres). This assumption was made in order to portray what the largest amount of disturbance could be expected to be. Reclaimed lands are also included in these calculations. Although no production exists in the DFO, there have been 44 test wells. The area is still considered a wildcat area with no commercial discoveries. Therefore, in order to model a production scenario, many assumptions are necessary. These assumptions include location, productive capability, reservoir parameters and hydrocarbon type and are based on information from representative oil and gas fields in Montana (Blackleaf and Kevin Sunburst). Even though the drilling activity forecast predicts two gas fields it is pos-

sible that the Lima area could also result in an oil field. Assumptions for both gas and oil fields are included here to make sure this possibility is factored into the analysis of impacts. Other critical factors that need to be considered when evaluating potential impacts of oil and gas activity are shown after the disturbance calculations and field assumptions. These factors include the duration of activity, and the type and quantity of equipment, personnel and other resources used and the frequency of such use.

The drilling activity forecast predicts a total of 6 exploration wells and 4 development wells. The area that would be disturbed totals 35 acres for well pads, 170 acres for access roads and 318 acres for pipelines for a total of 523 acres disturbed as a result of projected well drilling and field development.

It is assumed that 6 wells would prove to be commercially productive. For production the access roads and rights of way would be stabilized by seeding the cut and fill slopes and surfacing the top of the road bed. A small portion of the road rights of way would be returned to a pre-disturbance condition. A major portion of the well pads (up to two thirds) would be rehabilitated. The gas/oil gathering lines would be constructed along existing or new access roads resulting in no additional disturbance. Gas trunk lines would be completely rehabilitated. The following table displays the estimated amount of disturbance (in acres) expected from drilling and production activity predicted in the drilling activity forecast. It is based on the previously discussed assumptions and successful reclamation after construction operations are completed or oil and gas operations cease.

Estimation of Surface Disturbance Assumptions	
The maximum area cleared per well pad would be 3.5 acres (about 380 ft. x 400 ft.) and 2.3 acres would be stabilized in about 2 years.	
The maximum area cleared per access road per well would be 17 acres (about 40 ft. x 18480 ft.) and 9 acres would be stabilized in about 2 years.	
All field gathering pipelines (2-4 inch diameter) will follow existing or new access roads and no additional disturbance would result.	
The maximum area cleared for trunk lines to transport gas from two different fields to the existing transmission line near Dillon, Montana would be 318 acres (about 25 ft. x 554,400 ft.) and the entire area of disturbance would be stabilized in about 2 years. All perennial stream crossings would use horizontal drilling to avoid disturbance to the stream, its bed and banks.	
Dry and abandoned wells would be reclaimed.	

	<i>Unsuccessful Wildcat Wells</i>		<i>Commercially Productive Wells</i>	
	<i>Pre-Site Reclamation</i>	<i>Post-Site Reclamation</i>	<i>Pre-Site Reclamation</i>	<i>Post-Site* Reclamation</i>
Well Site	14	0	21	7.2
Access Roads	68	0	102	48
Pipelines	0	0	318	0
TOTAL ACRES DISTURBED	82	0	441	55.2

*The figures in this column represent the total area committed to production facilities and permanent access roads after the unused portions have been successfully rehabilitated.

Gas Field Assumptions

Gas fields would be discovered in the Lima and Big Hole Basin areas.
--

Fields would be roughly 3 square miles in surface area.

Full development would require 3 wells (one discovery and two step out wells). 3-D seismic would be run to refine step out well locations.
--

Gas would be transported by pipeline an order to be marketed. From Lima it would be transported north to Dillon for approximately 45 miles. From the Big Hole Basin it would be transported approximately 60 miles to the south and east to Dillon.

Compressor stations would be necessary along the pipeline route, with one of those stations being within one mile of the main line in order to boost the pipeline gas to the pressure of the main line.

Wells would be drilled 10,000 to 15,000 feet deep. One well would be drilled from each well pad. Only one development well would be drilled at a time.
--

Wells would take approximately 300 days to drill.

Condensate, gas, and water separation would occur at the wellsites. Water disposal would be into a lined pit at the surface or water would be injected into the subsurface through a dry hole converted into a water disposal well. Condensate would be shipped by truck (1 truck every 4 days).
--

The field is expected to produce for 25 years.
--

Well servicing, repair, and maintenance would continue throughout the life of the field. Well servicing operations would take 5 days per well and occur 6 times/well over the 25 year life of the field. A well tender would make one trip per day.

Oil Field Assumptions

An oil field is possible at the Lima area.
--

Field would be roughly 1-1/2 square miles in surface area.
--

Full field development would require 3 wells (one discovery and two step out wells) , 3-D seismic would be run to refine step out well locations.

Oil would be transported by truck to the appropriate refining facility.

Wells would be 10,000 to 15,000 feet deep. One well would be drilled from each well pad. Only one development well would be drilled at a time.
--

The wells would take approximately 300 days to drill.

Oil, gas, and water separation would occur at the wellsites. Water disposal would be into a lined pit at the surface or water would be injected into the subsurface through a dry hole converted into a water disposal well. Gas would be used on lease to separate oil and water and to heat oil. Gas not used on lease would be sold or vented/flared to the atmosphere. If sufficient gas quantities are produced this gas may also be captured and sold. For this analysis all unused gas is assumed to be reinjected for pressure maintenance
--

The field is expected to produce for 25 years.
--

Well servicing, repair, and maintenance continue throughout the life of the field. Well servicing operations would take 5 days per well and occur 6 times/well over the 25 year life of the field. A well tender would make one trip per day.

Activity	Approximate Time Frame	Number of Workers	Vehicles and Equipment	Number of Trips
Construction of well pad and access road Reserve pit is 125 ft X 200 ft X 12 deep; lined with 8-10 mil reinforced nylon/plastic. Location fixed by rig location.	1 week	5-6	2 Bulldozers 2 Scrapers Grader Water truck Workers' vehicles	2 (1/wk per dozer) 2 (1/wk per scraper) 1 (1/wk) 35 (5/day) 28 (4/day)
<p><u>Access Road</u> Culverts added if stream channels must be crossed, but operators usually would lengthen road to avoid drainages to minimize maintenance and to maintain maximum grade of 10% or less.</p> <p>In extreme terrain or remote locations, company may put up camps at drill site. Additional buildings (portable) for sleeping quarters and cooking and eating are used. Camp crew includes cook, assistant cook. Support facilities include septic systems, refrigerated food storage. Camp jobs eliminate some traffic due to shift changes.</p>				

Activity	Approximate Time Frame	Number of Workers	Vehicles and Equipment	Number of Trips
Well Drilling Rig-Size/Type: Triple derrick, jackknife type; Diesel or diesel-electric Weight: rig about 2,000,000 lbs Height: 160 ft (assumes 20 ft substructure) Engine: 1500-2000 horse power from 3 engines Derrick capacity: 1 million lbs Drilling Equipment requires: 40-50 one-way semi-truck loads to move rig to site at 45,000 lbs per load	300 days	5-6, during Drilling phase; 10, during cementing and running casing phases	Rig set-up (semi-trucks) Maintenance (pickup truck) Well-logging truck Semi-truck carrying casing Semi-truck carrying drilling steel Service trucks (mud, bits, special equipment) Water trucks Workers' vehicles Salesmen's vehicles	200 (20/day for 10 days) 300 (1/day) 3 (1/day, 3 separate days) 30 (5/day, 6 separate days) 8 (1/day, 8 separate days) 86 (2/wk) 600 (2/day) 1800 (6/day) 86 (2/wk)
<p><u>Water truck</u> - several trips per day (fresh water required to drill through all fresh water aquifers ranging from 600 ft to 2500 ft below surface, at rate of 10 bbl per ft). About 40,000 bbls of water required to drill remainder of well unless lost circulation problems occur, then more water required. A separate water truck may make 2-3 trips per day to spray fresh water on roads for dust control. Water source well is usually drilled for rank wildcat wells.</p>				

Activity	Approximate Time Frame	Number of Workers	Vehicles and Equipment	Number of Trips
Well Testing and Completion: the drilling rig is typically used to set the casing. A completion rig (smaller in size) is used to complete well for production.	1 week to 1 month	4 during testing; 10-12 for completion, fracturing, and/or acidizing phases	Truck carrying tubing, packers	6 (3/day for 2 days)
			Truck carrying wellhead	1 (1 in 1 day)
			Truck carrying testing tools	12 (3/wk)
			Truck carrying perforation tools	3 (1/day for 3 days)
			Pump and bulk trucks	10 (5 on 2 separate days)

Activity	Approximate Time Frame	Number of Workers	Vehicles and Equipment	Number of Trips
Placement of Production Facilities	1 week	4-5	Truck carrying meter device	1 (1/wk)
			Truck carrying pipe, fittings, etc.	1 (1/wk)
			Truck carrying dehydrator	1 (1/wk)
			Truck carrying tank	3 (3/wk)
			Backhoe	1 (1/wk)
			Workers' vehicles	28 (4/day)

Activity	Approximate Time Frame	Number of Workers	Vehicles and Equipment	Number of Trips
Pipeline Construction-per mile	1 week	5-8	Trencher	1 (1/wk)
			Dozer	1 (1/wk)
			Welding Truck	14 (2/day)
			Pipeline Truck	5 (5/wk)
			Workers' vehicles	28 (4/day)

Activity	Approximate Time Frame	Number of Workers	Vehicles and Equipment	Number of Trips
Abandonment/ Reclamation Well plugging, equipment dismantling and removal, and reclamation	3 weeks	5-6	Workover Rig and associated equipment	24 (3/day for 8 days)
			Bulldozer, scraper and road grader	3
			Maintenance (pickup truck)	21 (1/day)
			Semi-truck for equipment hauling	3
			Service trucks	4
			Workers' vehicles	126 (6/day)

PROCEDURES IN OIL AND GAS RECOVERY

GEOPHYSICAL OPERATIONS

Oil and gas geophysical exploration activities include data acquisition by use of ground vehicle or aircraft. Data is acquired to determine if a structure exists which might contain oil or gas. Geophysical exploration does not include core drilling for subsurface geologic information or well drilling for oil and gas. A federal oil and gas lease is not required before conducting geophysical operations. Information from geophysical exploration can lead oil companies or others to request that lands be offered for lease, or assist in the selection of drill sites on existing leases.

Existing road systems are used where available. Roads may be cleared of vegetation and loose rocks to improve access for trucks if that action is allowed by the permit. Blading and road construction for seismic operations are not usually allowed so that environmental impacts are minimized. In areas with rugged terrain or without access roads, and certain seasons of the year, seismic work is conducted by helicopter rather than by ground vehicles. Other geophysical operations that do not cause additional surface disturbance include remote sensing, gravity prospecting, and aeromagnetic surveying.

Procedures and Regulations

Notification Process - Geophysical operations on public lands are reviewed by the BLM. Exploration on public lands requires review and approval following the procedures in 43 CFR Subparts 3150, 3151, and 3154. In the Dillon

Field Office, the Field Manager is authorized to approve geophysical operations. The responsibilities of the geophysical operator and the Field Manager during geophysical operations are described below.

Geophysical Operator - The operator is required to file a Notice of Intent to Conduct Oil and Gas Exploration Operations (form 3150-4) for operations on public lands administered by the BLM. Maps (preferably 1:24,000 scale topographic maps) showing the location of the proposed lines and access routes must accompany the Notice of Intent.

When the Notice of Intent is filed, the authorized officer may request a prework conference or field inspection. Special requirements or procedures that are identified by the authorized officer are included in the Terms and Conditions for Notice of Intent to Conduct Geophysical Exploration (form 3150-4 and a copy of the state requirements). Any changes in the original Notice of Intent must be submitted in writing to the authorized officer. Written approval must be secured before activities proceed.

Bonding of the operator is required. A copy of proof of satisfactory bonding shall accompany the Notice of Intent. Proper bonding may include a \$5,000 individual, \$25,000 statewide, or \$50,000 nationwide geophysical exploration bond. In lieu of an exploration bond, a statewide or nationwide oil and gas drilling bond may be used if it contains a rider for geophysical exploration.

The operator is required to comply with applicable federal, state, and local laws such as Federal Land Policy and Management Act of 1976, the National Historic Preservation Act of 1966, and the Endangered Species Act of 1973, as amended. Operators may be required to submit an archeo-

logical evaluation if dirt work is contemplated, or if there is reason to believe that significant cultural resources may be adversely affected.

When geophysical operations have been completed, the operator is required to file a Notice of Completion (form 3150-5) including certification that all terms and conditions of the approved Notice of Intent have been fulfilled. The operator must also submit a map that shows the actual line location, access route, and other survey details.

BLM Field Manager (authorized officer) - The authorized officer is required to contact the operator within five working days after receiving the Notice of Intent to explain the terms of the notice, including the “Terms and Conditions for Notice of Intent to Conduct Geophysical Exploration,” current laws, and BLM-administrative requirements. At the time of the prework conference or field inspection, written instructions or orders are given to the operator. The authorized officer is responsible for the examination of resource values to determine appropriate surface protection and reclamation measures. The authorized officer is required to make a final inspection following filing of the Notice of Completion. When reclamation is approved, obligation against the operator’s bond is released. The BLM has 30 days after receipt of the Notice of Completion to notify the operator whether the reclamation is satisfactory or if additional reclamation work is needed. Bonding liability will automatically terminate within 90 days after receipt of the Notice of Completion unless the authorized officer notifies the operator of the need for additional reclamation work.

State Standards - Geophysical operators register with the state through the County Clerk and Recorder’s office. State regulations include requirements for shothole locations, drilling techniques, plugging techniques, and reclamation.

Mitigation - When a geophysical Notice of Intent is received, restrictions may be placed on the application to protect resource values or to mitigate impacts. Many of these requirements may be the same as the oil and gas lease stipulations adopted in the RMP. Other less restrictive measures may be used when impacts to resource values will be less severe. This is due in part to the temporary nature of geophysical exploration. The decisions concerning the level of protection required are made on a case-by-case basis when a Notice of Intent is received.

LEASING PROCESS

Federal oil and gas leasing authority is found in the 1920 Mineral Leasing Act, as amended, for public lands and the 1947 Acquired Lands Leasing Act, as amended, for acquired lands. Leasing of federal oil and gas is affected by other acts such as National Environmental Policy Act of 1969, the Wilderness Act of 1964, National Historic Preservation

Act of 1966, the Endangered Species Act of 1973, Federal Land Policy and Management Act of 1976, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987.

Regulations governing federal oil and gas leasing are contained in 43 CFR Part 3100 with additional requirements and clarification found in Onshore Operating Orders and Washington office manuals, handbooks and instruction memorandums.

The lease grants the right to explore, extract, remove, and dispose of oil and gas deposits that may be found in the leased lands. The lessee may exercise the rights conveyed by the lease subject to the lease terms and attached stipulations, if any.

Lease rights may be subject to lease stipulations and permit approval requirements. Stipulations and permit requirements describe how lease rights are modified. Lease constraints or requirements may also be applied to applications for permit to drill on existing leases provided the constraints or requirements are within the authority reserved by the terms and conditions of the lease. The stipulations and conditions of approval must be in accordance with laws, regulations, and lease terms. The lease stipulations and permit conditions of approval allow for management of federal oil and gas resources in concert with other resources and land uses.

The BLM planning process is the mechanism used to evaluate and determine where and how federal oil and gas resources will be made available for leasing. In areas where oil and gas development may conflict with other resources, the areas may be closed to leasing. Areas where oil and gas development could coexist with other land uses or resources will be open to leasing. Leases in these areas will be issued with standard lease terms or with added stipulations based upon decisions in the land use document. Added stipulations are a part of the lease only when environmental and planning records demonstrate the necessity for the stipulations (modifications of the lease).

Currently, leases are issued as either competitive leases or noncompetitive leases with 10-year terms. The competitive leases will be sold to the highest qualified bidder at an oral auction. Tracts that receive no bid at the sale are available for the filing of noncompetitive offers for two years following the sale. All offers filed the day after the sale (referred to as day-after-the-sale filings) are considered simultaneously filed. This means that if there is more than one offer filed for a specific parcel the day after the sale, a drawing must be held to determine the priority on multiple offers. Noncompetitive offers filed after that time are on a first-come first-served basis. If there are no offers filed for a parcel for the two-year period after the sale, the lands must be nominated again for competitive leasing. Rental payments for these leases will be \$1.50 per acre for the first 5 years and \$2.00 per acre thereafter until production is es-

established. The royalty rate for leases issued following the 1987 Oil and Gas Leasing Reform Act is 12-1/2 percent. Minimum royalty is the same amount as the rental.

Future interest leases are available for entire or fractional mineral estates that have not reverted to federal ownership. These are minerals that are reserved by the grantor for a specific period of time in warranty deeds to the United States. Any future interest leases may be obtained only through the competitive bidding process and are made effective the date of vesting of the minerals with the United States.

Plan Maintenance

New information may lead to changes in existing resource inventories. New use areas and resource locations may be identified or use areas and resource locations that are no longer valid may be identified. These resources usually cover small areas requiring the same protection or mitigation as identified in this plan. Identification of new areas or removal of old areas that no longer have those resource values will result in the use of the same lease stipulation identified in this plan. These areas will be added to the existing data inventory without a plan amendment. In cases where the changes constitute a change in resource allocation outside the scope of this plan, a plan amendment would be required.

Lease Stipulations

Certain resources in the planning area require protection from impacts associated with oil and gas activities. The specific resource and the method of protection are contained in lease stipulations. Lease stipulations are usually no surface occupancy, controlled surface use, or timing limitation. A notice may also be included with a lease to provide guidance regarding resources or land uses. While the actual wording of the stipulations may be adjusted at the time of leasing, the protection standards described will be maintained.

Controlled Surface Use

Use or occupancy is allowed (unless restricted by another stipulation), but identified resource values require special operational constraints that may modify the lease rights. Controlled surface use is used for operating guidance, not as a substitute for the no surface occupancy or timing stipulations.

No Surface Occupancy

Use or occupancy of the land surface for fluid mineral exploration or development is prohibited in order to protect identified resource values. The no surface occupancy stipulation includes stipulations which may have been worded

as No Surface Use and Occupancy,” “No Surface Disturbance,” “Conditional No Surface Occupancy,” and “Surface Disturbance or Occupancy Restriction (by location).”

Timing Limitation (Seasonal Restriction)

Prohibits surface use during specified times to protect identified resource values. This stipulation does not apply to the operation and maintenance of production facilities unless the findings of analysis demonstrate the continued need for such mitigation and that less stringent, project-specific mitigation measures would be insufficient.

PERMITTING

The lessee may conduct lease operations after lease issuance. Before beginning construction or drilling a well, the lessee must have an approved Application for Permit to Drill, including requirements for surface and subsurface operations. Many other lease operations, including surface and subsurface, must be approved by a Sundry Notice. When a well is no longer useful, the well is plugged and the surface reclaimed. Well plugging and reclamation operations are approved by a Sundry Notice, although verbal approval for plugging may be given for a well that was drilled but not completed for production. The period of bond liability is terminated after all wells covered by the bond are properly plugged and the surface reclaimed. The lands may then become available for future leasing.

Proposed drilling and associated activities must be approved before beginning operations. The operator must file an Application for Permit to Drill with the BLM Great Falls Oil and Gas Field Station. A copy of the application will be posted in the Field Station and Dillon Field Office, and if applicable, in the office of the Surface Management Agency for a minimum of 30 days for review by the public. After 30 days, the application can be approved in accordance with (a) lease stipulations, (b) Onshore Oil and Gas Orders, and (c) Onshore Oil and Gas regulations (43 CFR Part 3160) if it is administratively and technically complete.

Evidence of bond coverage for lease operations must be submitted with the application. Bond amount must not be less than a \$10,000.00 lease bond, a \$25,000.00 statewide bond or a \$150,000.00 nationwide bond.

Pre-drill on-site inspections will be conducted for all wells. The inspection makes possible selection of the most feasible well site and access road from environmental, geological, and engineering points of view. Surface use and reclamation requirements are developed during the on-site inspection that is usually conducted within 15 days after receipt of the Notice of Staking or Application for Permit to Drill. For operations proposed on privately-owned surface, if the operator after a good-faith effort is unable to reach an

agreement with the private surface owner, the operator must post a bond to cover loss of crops and damages to tangible improvements prior to approval of the Application for Permit to Drill.

Conditions of approval implement the lease stipulations and are part of the permit when environmental and field reviews demonstrate the necessity for operating constraints or requirements. A surface restoration plan is part of an approved permit, either an Application for Permit to Drill or Sundry Notice that includes surface-disturbing activities.

The authorized officer will act on the application in one of two ways:

Approves the application (a) as submitted or (b) with appropriate modifications or conditions of approval; or

Returns the application and (a) advises the lessee or operator of the reasons for disapproval or (b) advises the lessee or operator of the reason why final action has been delayed and the date such final action is expected.

For drilling operations on lands with state or private mineral ownership, the lessee must meet the requirements of the mineral owner and the state regulatory agency. The BLM does not have jurisdiction over nonfederal minerals; however, the BLM has surface management responsibility in situations of BLM surface over nonfederal mineral ownership.

APPLICATION FOR PERMIT TO DRILL

Applications for Permit to Drill are approved for the Dillon Field Office by the supervisor of the Great Falls Oil and Gas Field Station. The approved Application for Permit to Drill includes Conditions of Approval, and Informational Notices that cite the regulatory requirements from the Code of Federal Regulations, Onshore Operating Orders and other guidance.

Conditions of Approval

Conditions of approval are mitigation measures that implement restrictions in light of site-specific conditions. General guidance for conditions of approval is found in the BLM and U.S. Forest Service brochure entitled "Surface Operating Standards for Oil and Gas Exploration and Development" (USDI, BLM 1989c) and BLM Manual 9113 entitled "Roads".

The following mitigation measures may be applied to approved permits as conditions of approval. The listing is not all-inclusive, but presents some possible conditions of ap-

proval that may be used in the planning area. The wording of the condition of approval may be modified or additional conditions of approval may be developed to address specific conditions.

1. Surface Conditions:

- a. The access road on the BLM surface will not be bladed unless prior BLM approval is obtained.
- b. The operator will be responsible for weed control on the access road, well location, and pipeline for the life of the well.
- c. The operator will clean the undercarriage of all rigs prior to entering onto the leasehold to reduce the chances for noxious weed infestations.
- d. Topsoil is to be removed and stockpiled. Operator will be required to cover the topsoil pile to prevent the loss of topsoil to wind erosion. Operator must cover the topsoil with a biodegradable mesh fabric that allows water and air to circulate through the topsoil. Operator cannot cover the topsoil with any type of impermeable fabric.
- e. Rehabilitation of upland sites following disturbance would use the plant species listed below for seeding. The species used for rehabilitation would vary depending on the adjacent habitat conditions, site potential, soils and precipitation. Species not in the following list could be added if site conditions warrant, species availability changes or if there are large acreages are involved.
- f. All permanent structures will be painted the neutral color of Sand Beige (5Y 6/3), Desert Brown (10YR 6/3), Carlsbad Canyon (2.5Y 6/2) or Slate Gray (5Y 6/1) as displayed in the Standard Environmental Color chart (available at the BLM office) or other acceptable color approved by the authorized officer to blend in with the surrounding landscape.
- g. If the well is a dry hole, Operator will be required to fence the entire disturbed area of the location to allow the seedings and vegetation to re-establish. This fencing must be stock tight and must remain in place until the BLM requests otherwise.

2. Downhole Conditions:

- a. Surface casing shall have centralizers on each of the bottom three joints and shall be cemented back to surface.

Rehabilitation Species List			
Common Name	Scientific Name	4 Code	6 Code
12 to 14 inch precipitation zone			
western wheatgrass	<i>Pascopyrum smithii</i>	PASM	PASSMI
bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	PSSP6	PSESPI
thickspike wheatgrass	<i>Elymus macrourus</i>	ELMA7	ARGDAS
slender wheatgrass	<i>Elymus trachycaulus</i>	ELTR7	ELYTRA
green needlegrass	<i>Nassella viridula</i>	NAVI4	STIVIR
needle and thread	<i>Hesperostipa comata</i>	HECO26	STICOM
blue flax	<i>Linum perenne</i>	LIPE2	LINPER
scarlet globemallow	<i>Sphaeralcea coccinea</i>	SPCO	SPHCOC
Woods' rose	<i>Rosa woodsii</i>	ROWO	ROSWOO
15 to 19 precipitation zone			
basin wildrye	<i>Leymus cinereus</i>	LECI4	LEYCIN
bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	PSSP6	PSESPI
slender wheatgrass	<i>Elymus trachycaulus</i>	ELTR7	ELYTRA
Idaho fescue	<i>Festuca idahoensis</i>	FEID	FESIDA
sheep fescue	<i>Festuca ovina</i>	FEOV	FESovi
Sandberg bluegrass	<i>Poa secunda</i>	POSE	POASEC
blue flax	<i>Linum perenne</i>	LIPE2	LINPER
Woods' rose	<i>Rosa woodsii</i>	ROWO	ROSWOO

- b. BOP system shall be consistent with Onshore Oil and Gas Order No. 2, 2M system.
- c. The operator shall obtain verbal approval prior to initiating side-tracking operations. At the time of approval, the operator must identify the proposed azimuth, kick-off point, inclination rate (angle build rate), and the estimated closure or horizontal length to be drilled. All wellbore paths, i.e. different orientations of bottom hole locations, require prior approval.
- d. The operator shall have sufficient weighting materials and loss circulation materials on location in the event of a pressure kick or in the event of loss circulation.
- c. A complete copy of the approved APD must be on the well site and available for reference during the construction and drilling phase.
- d. Any deviation from the terms of this APD requires prior approval.
- e. This drilling permit is valid for either 1 year from the approval date or until lease expiration, whichever occurs first.
- f. Each drilling, producing or abandoned well shall be identified with the operator's name, the lease serial number, the well number, and the surveyed description of the well (either footages or the quarter section, the section, township and range). All markings must be legible, and in a conspicuous place.

3. Informational Notice:

- a. Approval of this APD does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease, which would entitle the applicant to conduct operations thereon.
- b. The lessee shall comply with applicable laws and regulation; with the lease terms, Onshore Oil and Gas Orders; NTL's; and with other orders and instructions of the authorized officer.

4. Notification Requirements:

- a. Notify this office at least 12 hours before beginning dirt work.
- b. Notify this office verbally at least 6 hours before the well is spudded.
- c. Notify this office verbally at least 6 hours prior to running/cementing casing.

- d. Notify this office verbally at least 6 hours prior to conducting BOP tests.
- e. Notify this office at least 6 hours prior to plugging for verbal plugging orders.

BLM Representative – Great Falls Field Station
Office Telephone No. (406) 791-7700:

After hours and weekend contacts are:

Petroleum Engineer Technician
Petroleum Engineer
Environmental Specialist
Field Station Supervisor

5. Plugging Requirements:

- a. Prior approval for abandonment must be obtained. Initial approval for abandonment during drilling operations may be verbal but must be followed by written notification on Form 3160-5, in triplicate.
- b. Upon completion of the approved plugging, the operator will cut the casing off four feet below reclaimed ground level and a 1/4" x 12" x 12" plate (with a 1/8" weep hole) shall be welded onto a fitting to be screwed into a collar either welded or screwed to the production casing. **The standard aboveground dry hole marker in accordance with 43 CFR 3162.6(d) has been waived by the Great Falls Field Station.** Pits must be fenced until dry or pumped and then filled in and recontoured unless otherwise approved by the Field Station Supervisor.
- c. The following minimum information shall be permanently placed on the plate: "Fed" or "Ind" as applicable; "Lease Number, Operator, Well Number, and Location by quarter/quarter, Section, Township, and Range."

6. Reports and Notifications:

- a. All submitted information not marked "CONFIDENTIAL INFORMATION" is subject to public disclosure in accordance with 43 CFR 3100.4.
- b. Production Startup Notification is required not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall

notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed.

7. Hazardous Materials:

- a. Operators and their contractors are to ensure all production, use, storage, transport, and disposal of hazardous materials resulting from the proposed project is in accordance with all applicable Federal, State and local laws, regulations and guidelines, existing or hereafter enacted or promulgated that effect the management of hazardous material, as defined in this paragraph. Hazardous material means any substance, pollutant, or contaminant listed as a hazardous substance under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended, 42 USC 9601 et seq., and its regulations (found at 40 CFR 302). The definition of hazardous substances under CERCLA includes "hazardous waste" defined in the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 USC 6901 et seq., and its regulations. The term also includes any extremely hazardous substances defined by 40 CFR 355, and any nuclear or byproduct material defined by the Atomic Energy Act of 1954, as amended, 42 USC 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof not otherwise listed or designated as a hazardous substance under CERCLA section 101 (14), 42 USC 9601 (14), or natural gas.
- b. Only drilling mud, drilling fluids, cuttings, native soils, cementing materials and/or approved pit solidifying materials will be placed in the reserve or working pits.
- c. Nonexempt wastes will not be mixed with exempt wastes.
- d. No hazardous materials will be used in the drilling and construction of wellsites and access roads. Commercial preparations, which may contain hazardous materials may be used in production operations and will be transported with the project area. These materials will be handled in an appropriate manner to minimize potential for leaks or spills to the environment. Other waste disposal methods and locations should be described on the APD or SN and approved by the BLM prior to disposal.

8. Environmental Obligations and Disposal of Produced Water:

- a. The Operator is required to take all necessary steps to prevent any death of a migratory bird in pits or open vessels associated with the drilling, testing, completion, or production of this well. The death of any migratory bird found in such a pit or open vessel is a violation of the Migratory Bird Treaty Act and is considered a criminal act. Any deaths of migratory birds attributable to pits or open vessels associated with drilling, testing, completing, or production operations must be reported to this office and the United States Fish and Wildlife Service within 24 hours.
- b. The BLM may require that the pit be designed or the open vessel be covered to deter the entry of birds in any facility associated with drilling, testing, completing, or production of this well. Fencing, screening, and netting of pits may be required as a means to deter bird entry. These conditions would most likely be imposed to prevent the entry of migratory birds if oil is left in pits or open vessels after the cessation of drilling or completion operations, if water disposal pits consistently receive oil, or if pits or open vessels are used repeatedly for emergency situations which result in the accumulation of oil.
- c. Voluntary pit fencing, screening, and netting, or sealing vessels is encouraged thus avoiding potential instances that may result in the death of a migratory bird.
- d. With BLM approval, water produced from newly completed wells may be temporarily disposed of into unlined pits for up to 90 days. During this initial period, application for the permanent disposal method must be made in accordance with Onshore Order No. 7.

9. Paleontological/Cultural Stipulations:

Paleontological and archaeological field checks by BLM personnel or other authorized personnel will occur prior to disturbance as deemed appropriate by the BLM. A BLM-approved archaeologist or paleontologist will conduct monitoring during surface-disturbing activities. Paleontological or cultural resource sites will be avoided or mitigated as necessary prior to disturbance. Any cultural or paleontological resource discovered by an operator or any person working on his/her behalf will be reported immediately to the BLM, and all operations that may further disturb such resources will be suspended until written authorization

to proceed is issued by the BLM authorized officer. An evaluation of the discovery will be made by the BLM to determine appropriate actions to prevent the loss of significant resources.

CONSTRUCTION

Construction of the access road and the well site is necessary before drilling operations begin. The extent of surface disturbance necessary for construction depends on the terrain, depth of the well, drill rig size, circulating system, and safety standards.

The depth of the drill test determines the size of the work area necessary, the need for all-weather roads, water requirements, and other needs. The terrain influences the construction problems and the amount of surface area to be disturbed. Reserve pit size may vary because of well depth, drill rig size, or circulating system.

Access roads to well sites in the planning area usually consist of running surfaces 14 to 18 feet wide that are ditched on one or both sides. Many of the roads constructed will follow existing roads or trails. New roads might be necessary because existing roads are not at an acceptable standard. For example, a road may be too steep so that realignment is necessary.

Roads can be permanent or temporary, depending on the success of the well. The initial construction can be for a temporary road; however, it is designed so that it can become permanent if the well produces. Not all temporary roads constructed are immediately rehabilitated when the drilling stops. A temporary road is often used as access to other drill sites. The main roads and temporary roads require graveling to be maintained as all-weather roads. This is especially important in the spring. Access roads may be required to cross public lands to a well site located on private or state lands. The portion of the access road on public land would require a BLM right-of-way.

Approximately 3-1/2 acres would be impacted by well site construction. The area is cleared of large vegetation, boulders, or debris. Then the topsoil is removed and saved for reclamation. A level area is then constructed for the well site, which includes the reserve pit.

The well pad is constructed by bulldozers and motor scrapers. The well pad is flat (to accommodate the drill rig and support equipment) and large enough to store all the equipment and supplies without restricting safe work areas. The drill rig must be placed on "cut" material rather than on "fill" material to provide a stable foundation for the rig. The degree of cutting and filling depends on terrain; that is, the flatter the site, the less dirt work is required.

Hillside locations are common, and the amount of dirt work varies with the steepness. A typical well pad will require a cut 10 feet deep against the hill and a fill 8 feet high on the outside. It is normal to have more cut than fill to allow for compaction, and any excess material is then stockpiled. Eventually, when the well is plugged and abandoned, excavated material is put back in its original place.

Reserve pits are normally constructed on the well pad. Usually the reserve pit is excavated in “cut” material on the well pad. The reserve pit is designed to hold drill cuttings and used drilling fluids. The size and number of pits depends on the depth of the well, circulating system and anticipated down hole problems, such as excess water flows.

The reserve pit can be lined with a synthetic liner to contain pit contents and reduce pit seepage. Not all reserve pits are lined; however, BLM can require a synthetic liner based upon factors such as soils, pit locations, ground water and drilling mud constituents. The operator can elect to line the reserve pit without that requirement.

An adequate supply of water is required for drilling operations and other uses. The sources of water can be a water well at the drill site or remote sources such as streams, ponds, or wells. The water is transported to the site by truck or pipeline. Pipelines are normally small diameter surface lines. The operator must file for and obtain all necessary permits for water from the state of Montana. On public lands, an operator must have the BLM’s permission before surface water can be used.

DRILLING OPERATIONS

As drilling progresses for a vertical well, the hole is drilled; pipe is placed in the hole to maintain the integrity of the hole. The first string of pipe is the conductor pipe, which stabilizes the hole near the surface. The second string of pipe placed in the hole is for surface casing, which is set deep enough to reach a competent zone below the deepest usable freshwater aquifer.

The surface casing is set and cemented in the hole by pumping cement between the casing and the well bore wall. Surface casing acts as a safety device to protect freshwater zones from drilling fluid contamination. To prevent the well from “blowing-out” in the event the drill bit hits a high-pressure zone, blowout preventers are mounted on top of the surface casing. If high-pressure zones are encountered that cannot be controlled with mud additives, the blowout preventers can be closed to effectively seal the well.

After the surface casing is set, a smaller drill bit that fits inside the surface casing is installed and drilling resumes. Depending on well conditions, additional strings of casing called intermediate casing may be installed and cemented into place. Conditions resulting in the need for intermedi-

ate casing include freshwater zones and sloughing formation zones. Casing prevents the flow of freshwater into the wellbore, and conversely prevents drilling fluids from infiltrating porous formations with low internal pressures. Casing also prevents mixing of waters from different formations (interformational mixing) where water within the formations is of differing quality.

All cementing operation plans are reviewed to assure cement is placed at the appropriate depths and a sufficient quantity is utilized to effectively seal all freshwater-bearing formations from contamination by interformational mixing or migration of fluids.

If no oil or gas is encountered, the well is plugged with cement and abandoned in accordance with state and federal requirements. If the well is a producer, casing is set and cemented in place.

Directional drilling may be used where the drill site cannot be located directly over the drilling target. There are limits to both the degree that the wellbore can be deviated from the vertical and the horizontal distance the well can be drilled away from the well site.

Horizontal wells are drilled similarly to directional wells, except that the bottomhole location of the well is not a single point, but rather a lateral horizontal section. They are drilled to increase the recovery oil and gas reserves from vertically fractured reservoirs, or reservoirs with directional permeability.

PRODUCTION AND DEVELOPMENT

Production

Production begins when a well yields oil or gas in commercial quantities. If formation pressure is sufficient to raise oil to the surface, the well is completed as a flowing well. A pumping unit is installed if the formation pressure is not sufficient to bring the oil to the surface.

When the well is completed as a free-flowing well, an assembly of valves and special connections known as a “Christmas tree” (so called because of its many branch-like fittings) is installed on top of the casing to regulate the flow of the well. Later, when the natural pressure declines, the Christmas tree can give way to a simple wellhead arrangement of valves and a pumping unit to lift the oil artificially. Many pumping units are “beam” style pumps that are powered by electric motors or gasoline engines.

Most gas wells produce by natural flow and do not require pumping. Surface use at a flowing well is usually a small area containing a gas well Christmas tree, a dehydrator, a

produced water pit, and a meter house. Separators, condensate tanks, and compressors may be included. Some gas wells require continuous water pumping as water entering the well chokes off the gas flow.

Development

Development can take years and include from one or two wells to more than a hundred wells per field. However, the reasonably foreseeable development scenario for this planning document only forecasts two additional wells per field. Roads to producing wells are upgraded to all-weather roads as necessary. Pipelines, electrical transmission lines, separators, dehydrators, sump pits, and compressor stations soon follow. Sometimes oil and gas processing facilities are built in or adjacent to the field.

Further Seismic Testing

More detailed seismic work can be done to achieve better definition of the petroleum reservoir. Diagonal seismic lines can be required to tie the previous seismic work to the discovery well. The discovery well can be used to conduct studies to correct the previous seismic work and provide more accurate subsurface data.

Spacing Requirements

A well spacing pattern must be established before development drilling begins. Information considered in establishment of a spacing pattern includes data from the discovery well on porosity, permeability, pressure, composition, and depth of formations in the reservoir; well production rates and type (predominantly oil or gas); and the economic effect of the proposed spacing on recovery. The state of Montana establishes well spacing patterns for both exploratory and development wells which the BLM generally adopts. The state specifies the minimum distance from lease lines or government survey lines for bottom hole location of the wellbore depending upon depth of the well. The spacing regulations determine the acres assigned to each well. Spacing unit size is established to provide for the most efficient and economic recovery of oil or gas from a reservoir. Well spacing ranges from 40 acres to 640 acres. Wells deeper than 11,000 feet can be no closer than 1,650 feet to other producing wells below 11,000 feet. Only one producing well per formation is allowed in each 40, 80, 160, 320, and 640-acre unit. Figures A and B show the different spacing patterns for oil and gas wells and the minimum distance from spacing unit boundaries to the well that are generally applied in Montana.

Drilling of Development Wells

The procedures used in drilling development wells are the same as those used for wildcat wells, but usually with less

subsurface sampling, testing, and evaluation. The rate at which development wells are drilled in a field depends on factors such as whether the field is developed on a lease basis or unitized basis, the probability of profitable production, the availability of drilling equipment, lease requirements, and the degree to which limits of the field are known.

Some fields go through several development phases, the first resulting from the original discovery and others from later discovery. A field can be considered fully developed and produce for several years, and then a well may be drilled to a deeper or shallower pay zone. Discovery of a new pay zone in an existing field is a “pool” discovery (as distinguished from a new field discovery). A pool discovery may lead to the drilling of additional wells, often from the same drilling pad as existing wells.

Inspections

Geophysical operations and lease operations are inspected to determine compliance with approved permits, to resolve conflicts or correct problems and to determine effectiveness and need of lease stipulations. All inspections are documented. Operators are required to correct problems or violations.

Surface Requirements

Field development activities that cause surface disturbance include access roads, well sites, production facility sites, flow line and utility line routes and waste disposal sites. Surface uses in a gas field will be less than in an oil field, because gas wells are usually drilled on larger spacing units. The spacing pattern of 640 acres per well, which is common in gas fields, will require only one well per section and might require only 1/2 mile of access roads and pipelines. Production facilities include separation and storage equipment. Separation equipment is required when production includes a combination of oil, gas or water and storage equipment is required for holding liquids prior to sales.

Flow Lines

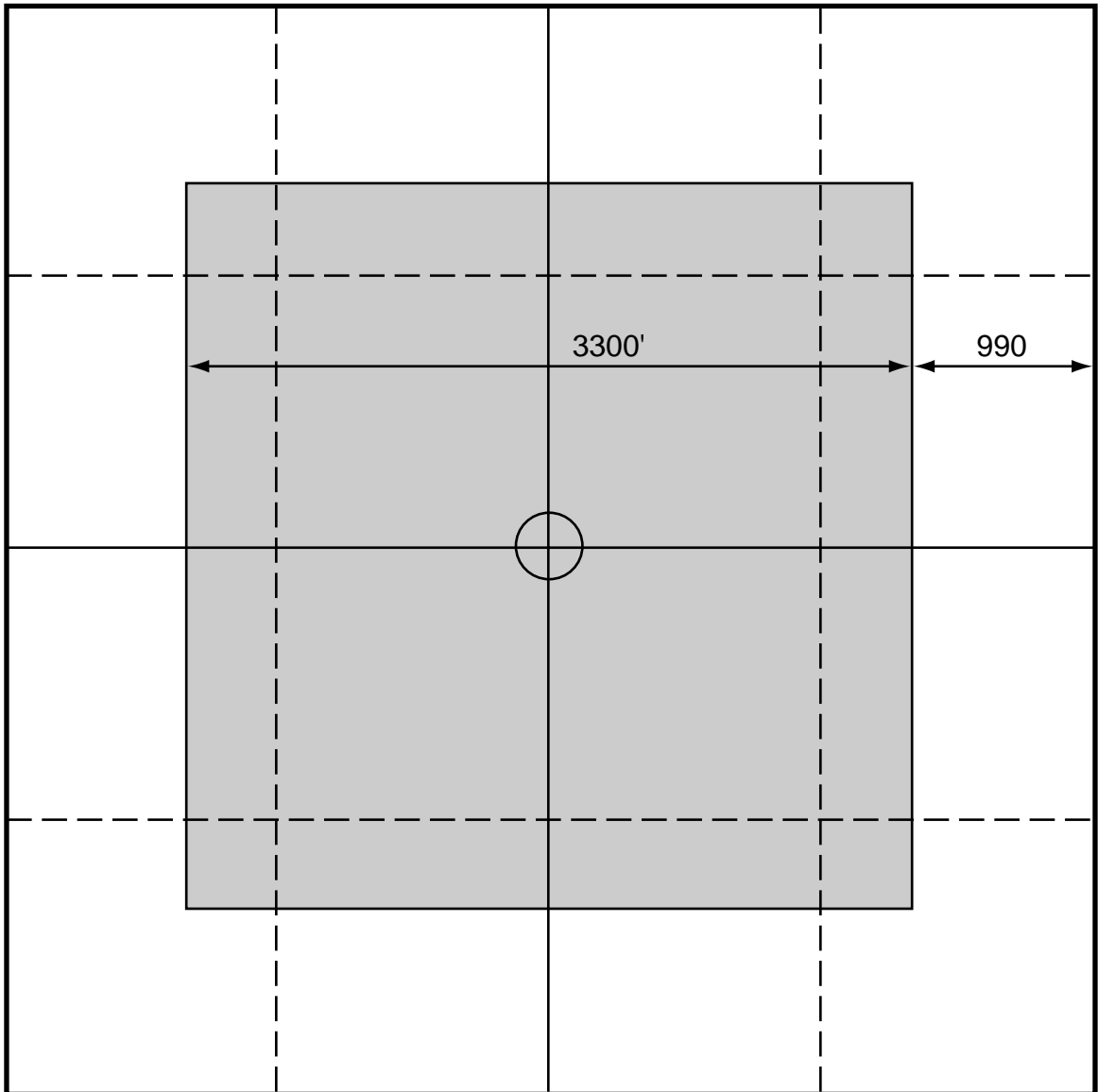
Oil and gas are transferred from the well to storage facilities through small diameter (<6 inches) flow lines. Flow lines can be on the surface, buried or elevated. Produced water, gas or polymerized liquid is transferred from storage facilities to injection wells for secondary recovery.

Separating, Treating, and Storage

Any water or gas associated with produced oil is separated from the oil before it is placed in storage tanks. The treating facilities are located at a storage tank battery. Low-pressure petroleum that must be pumped from the well is treated in a single separation. High-pressure, flowing petroleum

Figure A
Gas Well Spacing Section Plat

640 Acre Spacing



SOURCE: Montana Oil & Gas Commission

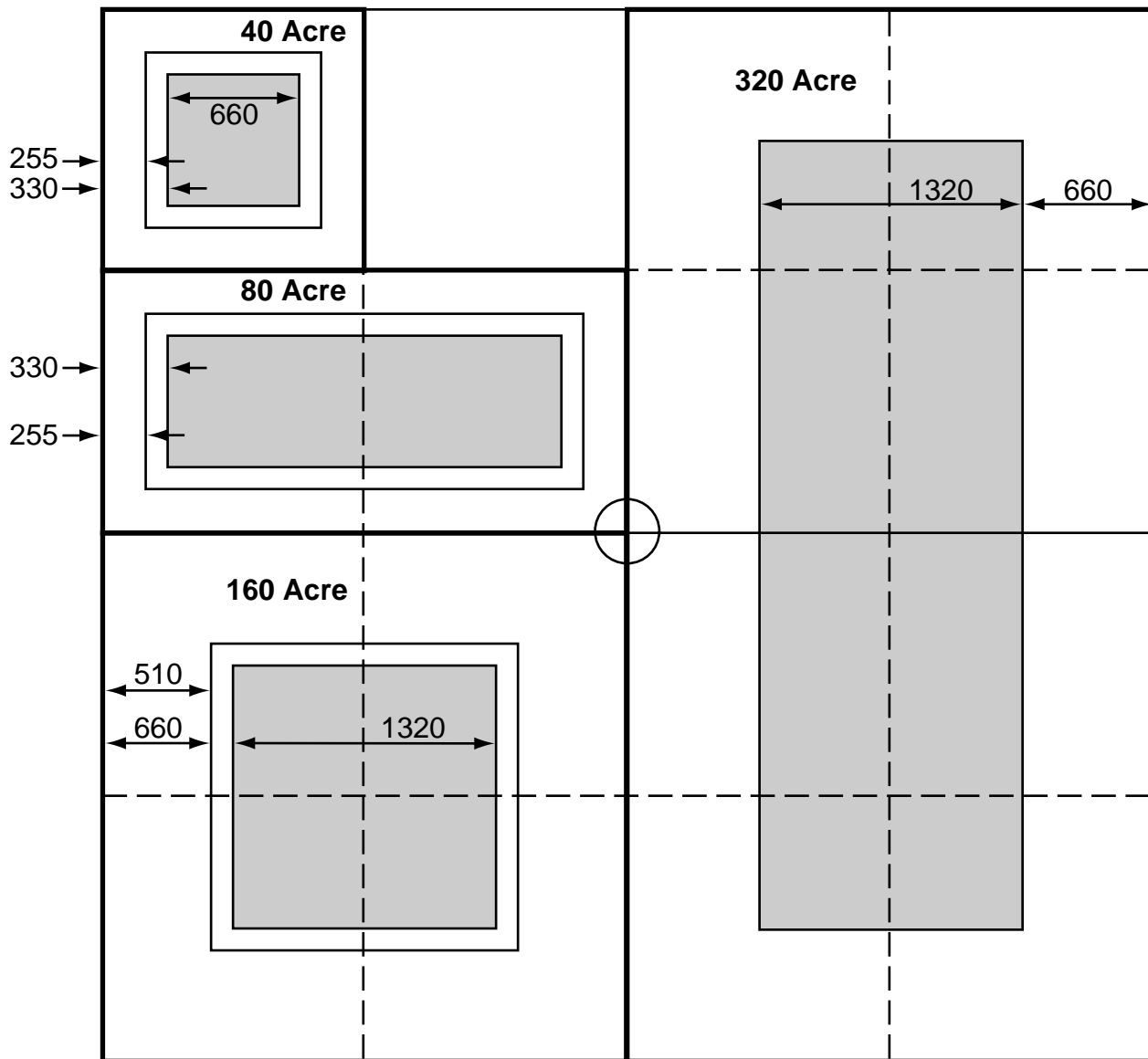


Area in which well should be drilled


Well
Depth
(feet)
—
0>

Minimum Well
Distance
(feet)
—
990

Figure B
Oil Well Spacing Section Plat



SOURCE: Montana Oil & Gas Commission

 Area in which well should be drilled

Well Depth (feet)	Spacing (acre)	Nearest Boundary (feet)	Topographic Tolerance (feet)	Minimum Well Distance (feet)
0-6,000	40 & 80	330	75	255
6,000 - 11,000	160	660	150	510
11,001 - >	320	660	none	none

For the 320 acre spacing (1,650 well tolerance) and the 80 acre spacing the drilling unit will be delineated either N-S or E-W

can require several stages or separation, with a pressure reduction accompanying each stage.

Produced gas is sold when there is sufficient volume, necessary transportation, a market, and it is economical. Generally, if the volume of produced gas is too low for sales, it is used as fuel for well pump engines and heating fuel for the treaters. If the volume of produced gas exceeds fuel requirements on the lease but gas sales are not possible, the gas can be flared or vented into the atmosphere when authorized by permit in accordance with state and federal regulations.

When water is produced with the hydrocarbons, it is separated before the gas is removed. In primary operations, where natural pressures or gravity causes the petroleum in the reservoir to flow to the wellbores, the degree of mixing is high enough to require chemical and heat treatment to separate the oil and water. In secondary production, where water injection or other methods are used to force additional petroleum to the wellbore, the oil and water often are not highly emulsified. In this case, the oil and water can be separated by gravity in a tall settling tank. Produced water can be disposed of by injection into the subsurface, surface evaporation or beneficial purposes such as water for livestock or irrigation.

Produced water from oil and gas operations is normally disposed of by subsurface injection or in surface pits. Regardless of the method of disposal, it must be acceptable to the BLM, in accordance with the requirements of Onshore Oil and Gas Order No. 7, titled "Disposal of Produced Water." Disposal of produced water by injection wells requires permits from the Montana Board of Oil and Gas Conservation. When produced water is disposed underground, it is introduced or injected under pressure into a subsurface horizon containing water of equal or poorer quality. Produced water may be injected into the producing zone from which it originated to stimulate oil production. Dry holes or depleted wells are commonly converted for saltwater disposal and occasionally new wells are drilled for this purpose.

The law and regulations require that all injection wells be permitted under the Underground Injection Control program. Under the Underground Injection Control approval process, the disposal well must be pressure tested to ensure the integrity of the casing. The disposal zone must also be isolated by use of tubing and mechanical plug called a packer. The packer seals off the inside of the casing and only allows the injected water to enter the disposal zone. The tubing and packer are also pressure tested to ensure their integrity. These pressure tests confirm isolation of the disposal zone from possible usable water zones.

The oil is transported to storage tanks through flow lines after separation from any water or gas. Storage tanks are usually located on the lease either at the producing well or

at a central production facility. The number and size of tanks are dependent upon the type and amount of production on the lease.

ABANDONMENT

When drilling wells are unsuccessful or production wells are no longer useful, the well is plugged, equipment is removed from the well site or production facility site, and the site is abandoned. The well bore is secured by placing cement plugs to isolate hydrocarbon-producing formations from contaminating other mineral or water bearing formations. The site and roads are then restored as near as possible to original contours. Topsoil is replaced and the recontoured areas are seeded. Reclamation of access roads and well sites on privately owned surface is completed according to the surface owner's requirements.

Rehabilitation requirements generally are made a part of the Application for Permit to Drill. Upon completion of abandonment and rehabilitation operations, the lessee or operator notifies the Great Falls Oil and Gas Field Station that the location is ready for inspection. Final abandonment will not be approved until the required surface reclamation work has been completed to the satisfaction of the BLM or surface owner. The period of bond liability for the well site is terminated after approval of final abandonment.

Reclamation of the reserve pit is part of the well site reclamation process. Reserve pit reclamation includes removal of fluids to a disposal well or commercial pit and burial of solids in the pit. Solids should not be buried until dry and then covered with a minimum of 6 feet of native soil. Any pit liner may be buried in place. Methods such as solidification or dewatering may be used to help dry the solids.

REGULATIONS, LAWS, AND SPECIAL PROCEDURES

Unit and Communitization Agreements

Unit and communitization agreements can be formed in the interest of conservation and to allow for the orderly development of oil and gas reserves.

A unit agreement provides for the recovery of oil and gas from the lands as a single consolidated entity without regard to separate lease ownerships. An exploratory unit is used for the discovery and development of the field in an orderly and efficient manner. Paying and nonpaying well determinations are made for each well drilled. If the well is nonpaying as defined by the agreement, the production is allocated on a lease basis. If the well is a paying unit well, a participating area is formed and the production is allocated to all interest owners in the participating area based on surface area.

A secondary unit is formed after the field has been defined and enhanced recovery techniques are being utilized. Secondary recovery techniques include water injection, natural gas injection, or carbon dioxide injection. Injection is initiated to maintain the reservoir pressure to maintain oil production. The agreement provides for the allocation of production among all the interest owners.

A communitization agreement combines two or more leases (federal, state, or fee) that otherwise could not be independently developed in conformity with established well spacing patterns. The leases within the spacing unit share in the costs and benefits of the well drilled in the spacing unit. Therefore, unit and communitization agreements can lessen the amount of damage to the environment and save dollars by eliminating unnecessary wells, roads, pipelines, and lease equipment.

Drainage Provisions

Federal oil and gas leases include a clause that the lessee must protect the leased area from drainage by off-lease wells. The regulations at 43 CFR 3162-2-9(b) state that the lessee/operating rights owner has an obligation to notify the BLM if drainage is occurring. If the lessee/operating rights owner has an interest in the draining well, he must notify the BLM within 60 days after completion of a drill stem, production, pressure analysis, or flow tests of the well. However, if the lessee/operating rights owner has no interest in the well, he must notify the BLM within 60 days after well completion or first production reports for the draining well are filed with either BLM, State Oil and Gas Commissions, or regulatory agencies and are publicly available. The lessee/operating rights owner must inform BLM of his plan to either protect the lease from the drainage, or demonstrate that a protective well would not be economic. The lessee has the option of drilling a protective well on lease or paying compensatory royalty for the lost oil or gas. The lessee also has the options of submitting data showing that drainage is not occurring or relinquish the portion of the lease subject to drainage after payment of compensatory royalty for drainage that did occur. The objective of the drainage program is to prevent the loss of federal oil and gas due to drainage by requiring the drilling of protective wells and, where appropriate, to assess compensatory royalty for such losses.

Drilling Access With No Surface Occupancy Stipulations on Oil Leases

No surface occupancy stipulations can restrict the development potential of a federal oil and gas lease. The no surface occupancy stipulations can limit the area that can be developed by restricting the amount of surface acreage available for occupancy. No surface occupancy restrictions often do not affect access to oil and gas resources unless there are blocks of contiguous land with no surface occupancy stipu-

lation or the drilling depth is presumed to be shallow. The drilling access area is that area under a no surface occupancy lease or lease parcel that can be accessed by the well bore from a surface location outside of the areas (see Figure C).

Lands near the outer boundary of a lease affected by a no surface occupancy stipulation can theoretically be developed by directional drilling. The BLM cannot assume that a prudent operator would use new technology such as horizontal drilling to access an entire lease area. Although the technology might allow exploration, the expense might make the venture uneconomical. However, BLM can assume that an operator might be willing to directionally drill wells using equipment and drilling techniques that make the venture economical. For a directionally drilled well, a maximum deviation of approximately five degrees is a commonly used rule of thumb for how much a vertical hole can be economically deviated using a standard drilling rig.

A “directional drilling accessibility” concept has been developed for leases affected by no surface occupancy stipulations. Shallow wells in Montana, less than 6,000 feet deep, can be deviated up to 1/8 mile and have the angle of deviation remain reasonably close to five degrees. This will place the bottom hole location in the center of a 40-acre tract. Because these wells are commonly spaced on a 40-acre basis, all spacing units within 1/4 mile of the outer boundary of the lease can be tested. Wells between 6,000 and 11,000 feet deep can also be deviated up to 1/4 mile. This will place the bottom hole location of the well the maximum allowable distance from the lease line for a well of this depth. Because these wells are spaced on a 160-acre basis, all spacing units within 1/2 mile of the exterior boundary of the lease can be tested.

Wells in Montana, with a total depth greater than 11,000 feet, are normally spaced on a 320-acre basis. These wells can be deviated up to 1/4 mile using the above criteria. Using this distance, all spacing units within 1/2 mile of the outer boundaries of an affected lease can be tested.

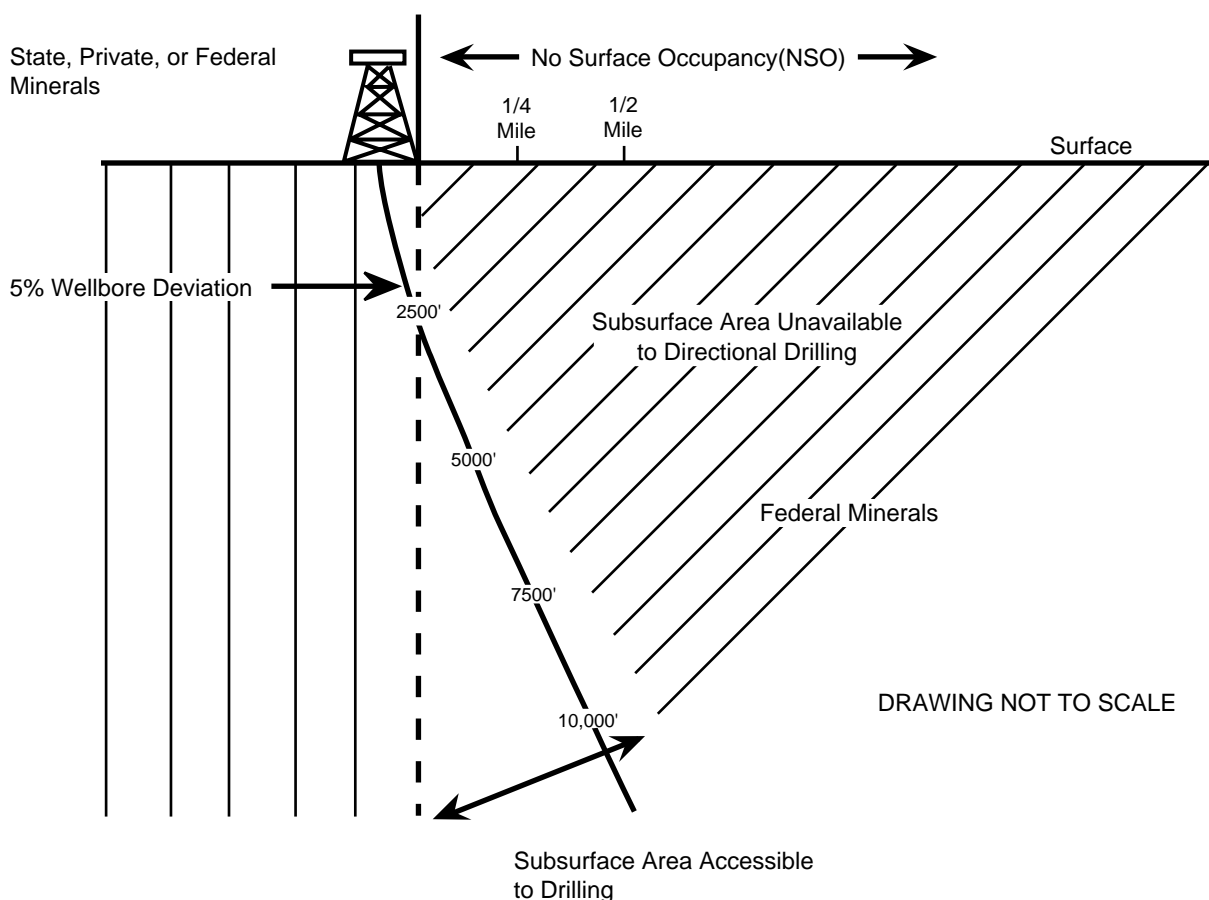
Split Estate

Part of the area included in the planning area contains lands known as split estate lands. These are lands where the surface ownership is different from the mineral ownership. Management of federal oil and gas resources on these lands is somewhat different from management on lands where both surface and mineral ownership is federal. On split estate lands where the surface ownership is private, the BLM places necessary restrictions and requirements on its leases and permit approvals and works in cooperation with the surface owner. BLM has established policies for the management of federal oil and gas resources in accordance with federal laws and regulations.

The BLM does not have the legal authority to regulate how private surface is managed. BLM does have the statutory authority to require measures by lessees to avoid or minimize adverse impacts that may result from federally authorized mineral lease activities. These measures, in the form of lease stipulations or permit conditions of approval, are intended to protect or preserve the privately owned resources and prevent adverse impacts to adjoining lands, not to dictate management to the surface owner.

The term split estate can also refer to lands where the surface ownership is federal and the mineral ownership is private. In this situation, BLM is the surface owner, and works in cooperation with the proponent and the state regulatory agency that approves private mineral applications. BLM has responsibilities in this situation under the previously mentioned statutes; however, BLM does not have the authority to approve or disapprove the mineral owner's actions. The mineral estate owner usually has the right to enter the land and use the surface that is necessary and reasonable for mineral development through either a reserved or an outstanding right contained in the deed.

Figure C
Directional Drilling Accessibility Concept



OIL AND GAS LEASE NOTICES

CULTURAL RESOURCES

An inventory of the leased lands may be required prior to surface disturbance to determine if cultural resources are present and to identify needed mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator shall:

1. Contact the Surface Management Agency (SMA) to determine if a cultural resource inventory is required. If an inventory is required, then;
2. The SMA will complete the required inventory; or the lessee or operator, at their option, may engage the services of a cultural resource consultant acceptable to the SMA to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the standard ten-acre minimum to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the SMA for review and approval no later than that time when an otherwise complete application for approval of drilling or subsequent surface-disturbing operation is submitted.

3. Implement mitigation measures required by the SMA. Mitigation may include the relocation of proposed lease-related activities or other protective measures such as data recovery and extensive recordation.

The lessee or operator shall immediately bring to the attention of the Surface Management Agency any cultural resources or any other objects of scientific interest discovered as a result of approved operations under this lease, and shall leave such discoveries intact and undisturbed until directed to proceed by the SMA.

Authorities: Compliance with Section 106 of the National Historic Preservation Act is required for all actions which may affect cultural properties eligible to the National Register of Historic Places. Section 6 of the Oil and Gas Lease Terms (Form 3100-11) requires that operations be conducted in a manner that minimizes adverse impacts to cultural and other resources.

PALEONTOLOGICAL RESOURCES

The lessee or operator shall immediately bring to the attention of the Surface Management Agency (SMA) any paleontological resources or any other objects of scientific interest discovered as a result of approved operations under this lease, and shall leave such discoveries intact and undisturbed until directed to proceed by the SMA.

ALTERNATIVE A OIL AND GAS STIPULATIONS

<u>Resource:</u>	Sage Grouse Winter/Spring Range
Stipulation:	Timing Limitation. No activity from December 1 through May 15 within winter and spring range for sage grouse.
Objective:	To protect sage grouse winter and spring range from disturbance during the winter/spring season and to facilitate long-term maintenance of wildlife populations.
Exception:	An exception to this stipulation may be granted by the authorized officer in consultation with FWP if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain sage grouse winter/spring range. The dates for the timing restriction may be modified if new information indicates that the December 1 through May 15 dates are not valid for the leasehold.
Waiver:	This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains sage grouse winter/spring range, or if in coordination with FWP, determines that the area is not critical for sage grouse.
<u>Resource:</u>	Sage Grouse Strutting Grounds (Leks)
Stipulation:	No Surface Occupancy. Activity is prohibited within 500 feet of a lek.
Objective:	To protect sage grouse leks necessary for long-term maintenance of regional sage grouse populations.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modifications:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting sage grouse leks.
Waiver:	This stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold can be occupied without adversely affecting sage grouse leks.
<u>Resource:</u>	State Game Ranges
Stipulation:	No lease is permitted within the core area. The core area is considered to be any area approximately one mile or more inside the boundary. No Surface Occupancy is permitted in the perimeter area of the game ranges administered by FWP. The perimeter area constitutes the area between the boundary of the game range extending approximately one mile into the interior of the game range.
Objective:	To protect FWP elk winter range necessary for long-term maintenance of regional elk populations.
Exception:	An exception to this stipulation may be granted by the authorized officer if, in coordination with FWP, it is determined that portions of the game range can be occupied without adversely affecting elk winter range use.

Modification:	The boundaries of the stipulated area may be modified if the authorized officer, in coordination with FWP determines that portions of the game range can be occupied without adversely affecting elk winter range use.
Waiver:	None.
<u>Resource:</u>	Big Game Winter/Spring Range
Stipulation:	Timing Limitation. No activity from December 1 through May 15 within winter range for wildlife.
Objective:	To protect mule deer, elk, antelope, and moose winter range from disturbance during the winter/spring season, and to facilitate long-term maintenance of wildlife populations.
Exception:	An exception to this stipulation may be granted by the authorized officer in consultation with FWP if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain big game winter/spring range, or if in coordination with FWP, determines that the area is not critical for big game species. The dates for the timing restriction may be modified if new information indicates that the dates are not valid for the leasehold.
Waiver:	This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains winter/spring range for wildlife.
<u>Resource:</u>	Elk Calving/Big Game Birthing Areas
Stipulation:	Timing Limitation. Activity is prohibited from May 1 through June 30 in elk calving areas.
Objective:	To protect elk calving areas from disturbance and facilitate long-term maintenance of elk populations.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain elk calving habitat. The dates for the timing restriction may be modified if new wildlife use information indicates that the May 1 through June 30 dates are not valid for the leasehold.
Waiver:	This stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold no longer contains elk calving areas.
<u>Resource:</u>	Bighorn Sheep Yearlong Range
Stipulation:	Timing Limitation. No activity from December 1 through May 15 within winter range for bighorn sheep
Objective:	To protect bighorn sheep winter range from disturbance during the winter/spring season, and to facilitate long-term maintenance of wildlife populations.
Exception:	An exception to this stipulation may be granted by the authorized officer in consultation with FWP, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain bighorn sheep. The dates for the timing restriction may be modified if new information indicates that the dates are not valid for the leasehold.
Waiver:	This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains bighorn sheep habitat.
<u>Resource:</u>	Bighorn Sheep Core Areas
Stipulation:	No Surface Occupancy. Activity is prohibited within the bighorn sheep core areas in the Hidden Pasture area and the Greenhorn Mountains Reintroduction Area.
Objective:	To protect bighorn sheep yearlong habitat necessary for long-term maintenance of the Tendoy and Greenhorn Mountains bighorn sheep populations.
Exception:	An exception to this stipulation may be granted by the authorized officer, in consultation with FWP, if the operator submits a plan which demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer, in consultation with FWP, determines that portions of the HMP/Reintroduction area can be occupied without adversely affecting bighorn sheep use.
Waiver:	This stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold can be occupied without adversely affecting bighorn sheep use in the HMP or reintroduction areas.
<u>Resource:</u>	Bald Eagle Nest Sites/Breeding Habitat
Stipulation:	No Surface Occupancy. Activity is prohibited within one half mile of bald eagle nest sites and within bald eagle nesting habitat in riparian areas.
Objective:	To protect bald eagle nesting sites and/or breeding habitat in accordance with the Endangered Species Act and the Montana Bald Eagle Management Plan.
Exception:	An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the bald eagle or its habitat. If the authorized officer determines that the action may have an adverse affect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the U.S. Fish and Wildlife Service.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that area can be occupied without adversely affecting bald eagle nest sites or nesting habitats
Waiver:	This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting bald eagle nest sites or nesting habitat.
<u>Resource:</u>	Bald Eagle Nest Sites/Breeding Habitat
Stipulation:	Timing Limitation. No activity is allowed from February 1 through August 31 in a one mile radius around bald eagle nest sites.
Objective:	To protect bald eagle nesting sites and/or breeding habitat in accordance with the Endangered Species Act and the Montana Bald Eagle Management Plan.

Exception:	An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the bald eagle or its habitat. If the authorized officer determines that the action may have an adverse affect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the U.S. Fish and Wildlife Service.
Modification:	A modification may be granted if new habitat studies show that a portion of the area is not used by eagles.
Waiver:	This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting bald eagle nest sites or nesting habitat.
<u>Resource:</u>	Raptor Breeding Territories (Golden eagle, Prairie falcon, Swainson's hawk)
Stipulations:	Timing Limitation. No activity from March 1 through July 31 within one half mile of raptor nest sites which have been active within the past five years.
Objective:	To protect reproductive potential of breeding habitat for special status raptors.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates the impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer are within one half mile of raptor nest sites. The dates for the timing restriction may be modified if new information indicates that the March 1 through July 31 dates are not valid for the leasehold.
Waiver:	This stipulation may be waived if the authorized officer determines that the entire leasehold no longer is within one half mile of raptor nest sites
<u>Resource:</u>	Waterfowl Production Molting Areas
Stipulation:	No Surface Occupancy. No activity allowed within 500 feet of waterfowl nesting areas.
Objective:	To protect waterfowl production areas necessary for long-term maintenance of local waterfowl populations.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can occupied without adversely affecting waterfowl production areas, or if the area no longer provides waterfowl production habitat.
Waiver:	This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting waterfowl production areas, or if the area no longer provides waterfowl production habitat.
<u>Resource:</u>	NAWCA/IMWJV Wetland Projects
Stipulation:	No Surface Occupancy. No activity allowed within 1000 feet of NAWCA/IMWJV wetland projects.
Objective:	To protect wetland habitats and the capital investment associated with wetland projects developed under the North American Wetland Conservation Act and the Intermountain West Joint Venture.

Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are minimal and acceptable or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting project investments and wetland habitat and dependent species.
Waiver:	None.
<u>Resource:</u>	Ferruginous Hawk Breeding Territories
Stipulation:	Timing Limitation. No activity permitted from March 1 through July 31 within one half mile of hawk nest sites that have been active within the past five years.
Objective:	To protect reproductive potential of breeding habitat for special status raptors.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates the impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer are within one half mile of raptor nest sites. The dates for the timing restriction may be modified if new information indicates that the dates are not valid for the leasehold.
Waiver:	This stipulation may be waived if the authorized officer determines that the entire leasehold no longer is within one half mile of raptor nest sites.
<u>Resource:</u>	Threatened, Endangered, and Special Status Species
Stipulation:	The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 <u>et seq.</u> , including completion of any required procedure for conference or consultation.
Objective:	Avoid BLM-approved activity that will contribute to a need to list a species or their habitat as threatened or endangered.
Exception:	None.
Modification:	None.
Waiver:	None.
<u>Resource:</u>	Westslope Cutthroat Trout Habitat (90-100% pure)
Stipulation:	No Surface Occupancy. No activity allowed within 1/4 mile from centerline of stream containing known populations of westslope cutthroat trout.
Objective:	To ensure healthy aquatic habitat exists in drainages important to the viability of Upper Missouri River Basin Westslope Cutthroat Trout.

Exception:	An exception may be granted after a site assessment is conducted and if the operator can demonstrate in a surface use plan of operations that adverse effects can be eliminated and activities would not affect sensitive trout populations. The following mitigation measures would apply: A) No net increase in sediment over existing condition. B) No adverse effects on water quality and quantity.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines, in consultation with MDFWP, that portions of the area can be occupied without adversely affecting westslope cutthroat trout habitat.
Waiver:	A waiver may be granted if it is determined, in consultation with the FWP, that the entire leasehold does not contain westslope cutthroat trout populations with purity of 90% or greater.
<u>Resource:</u>	Fluvial and Adfluvial Arctic Grayling Habitat
Stipulation:	No Surface Occupancy. No activity allowed within 1/4 mile from centerline of occupied or influencing habitat, specifically the North Fork of the Big Hole River, the Big Hole, the Beaverhead and Ruby Rivers, and tributaries to Upper Red Rock Lake.
Objective:	To ensure healthy aquatic habitat exists along rivers and tributaries important to the viability of fluvial and adfluvial arctic grayling.
Exception:	An exception may be granted if the FWP determines the Ruby and Beaverhead Rivers are no longer viable recovery sites.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines, in consultation with FWP, that portions of the area can be occupied without adversely affecting westslope cutthroat trout habitat. The following mitigation measures would apply: A) No net increase in sediment over existing condition B) No adverse effects on water quality or quantity
Waiver:	Justification for a waiver is not apparent at this time.
<u>Resource:</u>	Class 1 Fisheries
Stipulation:	No Surface Occupancy. Activity is prohibited within 1000 feet from the centerline of Class 1 fishery streams (Blue Ribbon trout streams).
Objective:	To ensure healthy aquatic habitat are maintained along Class 1 fisheries.
Exception:	An exception may be granted if FWP modifies the Class 1 fisheries rating. Application of the following mitigation measures apply: A) No net increase in sediment over existing condition; and B) No adverse effects on water quality and quantity.
Modification:	None.
Waiver:	None.
<u>Resource:</u>	Developed Recreation Sites
Stipulation:	No Surface Occupancy. Activity is prohibited within 300 feet of developed recreation sites. Developed sites include: Axolotl Lakes cabin and fishing access, Deadwood Gulch campground, Big Sheep Creek Back Country Byway, Maiden Rock boat launch, East Fork Blacktail Deer Creek Campground, Ney Ranch Recreation Site, Palisades Recreation Site, Palisades Recreation Site, Red Mountain Day Use, Red Mountain Campground, Warm Springs Day Use, Bear Trap Wilderness

Trailhead, Bear Trap Boat Launch, Fall Creek Day Use, Kobayashi Beach, Ruby Creek Campground, Klutes Landing, and Shoshone Ridge.

Objective: To recognize and protect the public's opportunity for quality recreation experiences at those sites developed for that purpose. A 300-foot buffer would protect capital investment, and to a limited extent, visitors' recreation experiences while at the site.

Exception: An exception may be granted by the authorized officer if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be mitigated.

Modification: The boundaries of the area may be modified by the authorized officer if the recreation area boundaries are changed.

Waiver: This stipulation may be waived by the authorized officer if the entire leasehold no longer contains a developed recreation area.

Resource: **Undeveloped Recreation Sites**

Stipulation: No Surface Occupancy. Activity is prohibited within 300 feet of undeveloped recreation sites receiving concentrated public use.

Objective: To prevent user conflicts and incompatible uses in areas receiving concentrated public use.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating the impacts to recreation users are acceptable or can be adequately mitigated.

Modification: The area affected by this stipulation may be modified by the authorized officer if the boundaries of the undeveloped recreation areas receiving concentrated public use are changed.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains undeveloped recreation areas receiving concentrated use.

Resource: **Vehicle Use Restrictions**

Stipulation: Controlled Surface Use. Oil and gas activities will comply with all motorized vehicle use and travel plan restrictions, including seasonal restrictions and areas closed to motorized travel.

Objective: To prevent degradation of various resource values protected by travel plan limitations and motorized vehicle use restrictions.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating the impacts to values being protected through vehicle use restrictions can be adequately mitigated.

Modification: None.

Waiver: None.

Resource: **NRHP Eligible Properties/Districts**

Stipulation: No Surface Occupancy. Activity is prohibited within 300 feet of the boundaries of sites or districts eligible for or included on the National Register of Historic Places.

Objective: To avoid disturbance and to protect significant cultural properties, districts and their settings.

Exception: An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that the adverse impacts to cultural properties can be mitigated

through data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the Surface Managing Agency, surface occupancy on that area must be prohibited.

Modification: No modifications will be granted.

Waiver: No waivers will be granted.

Resource: **Traditional Cultural Properties**

Stipulation: No Surface Occupancy. Activity is prohibited within 300 feet of the boundaries of traditional cultural properties and sites designated for traditional use.

Objective: To avoid disturbance and to protect cultural properties determined to be of particular importance to Native American Groups, determined to be Traditional Cultural Properties (TCP's), and/or designated for traditional use.

Exception: An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that the adverse impacts to cultural properties can be mitigated through data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the Surface Managing Agency, surface occupancy on that area must be prohibited.

Modification: No modifications will be granted.

Waiver: No waivers will be granted.

Resource: **VRM Class II, III, & IV Areas**

Stipulation: Controlled Surface Use. All surface disturbing activities and construction of semi-permanent and permanent facilities may require special design including location, painting, and camouflage to blend with the natural surroundings and meet the visual quality objectives for each respective class.

Objective: To control the visual impacts of activities and facilities within acceptable levels.

Exception: None

Modification: None

Waiver: None

Resource: **Wetlands, Floodplains and Riparian Areas**

Stipulation: No Surface Occupancy. Activity is prohibited within 500 feet of reservoirs, lakes, ponds, and intermittent, ephemeral or small perennial streams, and within 1000 feet of perennial streams, rivers and domestic water supplies.

Objective: To protect biological and hydrological features associated with wetlands, floodplains and riparian areas.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

Modification: The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of the area do not include wetlands, floodplains, or riparian areas.

Waiver:	This stipulation may be waived by the authorized officer if it is determined that the entire leasehold does not include wetlands, floodplains, or riparian areas.
<u>Resource:</u>	Active Mass Movement Areas
Stipulation:	Controlled Surface Use. Prior to surface disturbance in areas of active mass movement an engineering/reclamation plan must be approved by the authorized officer. Such plan must demonstrate how the following will be accomplished: <ul style="list-style-type: none"> o Site productivity will be restored. o Surface runoff will be adequately controlled. o Off site areas will be protected from accelerated soil erosion. o Surface disturbing activities will not be conducted during extended wet periods.
Objective:	To maintain soil productivity, to avoid areas subject to mass movement, to preclude construction of well sites and related facilities in areas of potential failure.
Exceptions:	An exception may be granted if the operator can demonstrate in a plan of operations that adverse effects can be minimized and activities safely conducted.
Modifications:	The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of area are not subject to mass movement.
Waiver:	This stipulation may be waived by the authorized officer if it is determined that none of the leasehold is subject to mass movement.
<u>Resource:</u>	Slopes $\geq 30\%$
Stipulation:	Controlled Surface Use. Prior to surface disturbance on slopes greater than 30 percent, an engineering/reclamation plan must be approved by the authorized officer. Such plan must demonstrate how the following will be accomplished: <ul style="list-style-type: none"> • Site productivity will be restored. • Surface runoff will be adequately controlled. • Off site areas will be protected from accelerated soil erosion. • Surface disturbing activities will not be conducted during extended wet periods
Objective:	To maintain soil productivity and provide necessary protection to prevent excessive soil erosion on steep slopes.
Exceptions:	An exception may be granted if the operator can demonstrate in a plan of operations that adverse effects can be minimized and activities safely conducted.
Modification:	The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of area do not include slopes over 30 percent, or the operator can demonstrate in a plan of operations that adverse effects can be minimized.
Waiver:	This stipulation may be waived by the authorized officer if it is determined that none of the leasehold contains slopes greater than 30 percent.
<u>Resource:</u>	Designated National Historic Trails (Lewis and Clark, and the Nez Perce (Nee Me Poo) Trail)
Stipulation:	No Surface Occupancy. Activity is prohibited within 300 feet of designated National Historic Trails. Designated National Historic Trails include the Lewis and Clark National Historic Trail and the Nez Perce (Nee Me Poo) National Historic Trail.
Objective:	To protect National Historic Trails and the setting/viewshed in which they occur.
Exception:	No exceptions will be granted.

Modification: No modifications will be granted.

Waiver: No waivers will be granted.

Resource: **National Historic Landmarks**

Stipulation: No Surface Occupancy. Activity is prohibited within 300 feet of the boundary of designated National Historic Landmarks. National Historic Landmarks include the Virginia City National Historic Landmark.

Objective: To protect significant designated National Historic Landmarks and their setting.

Exception: No exceptions will be granted.

Modification: No modification will be granted.

Waiver: No waivers will be granted.

Resource: **Continental Divide National Scenic Trail**

Stipulation: No Surface Occupancy. Activity is prohibited within 300 feet of designated Continental Divide National Scenic Trail.

Objective: To preserve and protect the existing scenic character of the landscape along the trail.

Exception: No exceptions will be granted.

Modification: No modifications will be granted.

Waiver: No waivers will be granted.

Resource: **Major Road Right-of-Ways**

Stipulation: No Surface Occupancy. Activity is prohibited within 100 feet from the edge of highway right-of-ways, designated county roads and other federally-owned or controlled roads.

Objective: To protect primary access routes and prevent conflict with public travel on major travel routes.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be adequately mitigated in coordination with the holder of the land use authorization.

Modification: The boundaries of this stipulated area may be modified by the authorized officer if the boundaries of the above-described roads change.

Waiver: This stipulation may be waived by the authorized officer if highway right-of-ways, designated county roads and other federally-owned or controlled roads do not exist within a leasehold.

ALTERNATIVE B OIL AND GAS STIPULATIONS

<u>Resource:</u>	Sage Grouse Winter/Spring Range
Stipulation:	Timing Limitation. No activity from December 1 through May 15 within winter and spring range for sage grouse.
Objective:	To protect sage grouse winter range from disturbance during the winter/spring season, and to facilitate long-term maintenance of wildlife populations.
Exception:	An exception to this stipulation may be granted by the authorized officer in consultation with FWP, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain sage grouse winter/spring range. The dates for the timing restriction may be modified if new information indicates that the December 1 through May 15 dates are not valid for the leasehold.
Waiver:	This stipulation may be waived if the authorized officer determines that the entire leasehold sage grouse winter/spring range, or if in coordination with FWP, determines that the area is not critical for sage grouse.
<u>Resource:</u>	Sage Grouse Strutting Grounds (Leks)
Stipulation:	No Surface Occupancy. Activity is prohibited within 1/4 mile of sage grouse leks.
Objective:	To protect sage grouse strutting grounds and leks to maintain regional sage grouse populations.
Exception:	An exception to this stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting sage grouse leks.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting sage grouse leks.
Waiver:	The stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold can be occupied without adversely affecting sage grouse leks.
<u>Resource:</u>	Sage Grouse Breeding Habitat
Stipulation:	Timing Limitation. Activity is restricted from March 1 through June 30 in nesting and early brood-rearing habitat (defined as within three miles of leks).
Objective:	To protect sage grouse leks and breeding habitat necessary for long-term maintenance of regional sage grouse populations.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting sage grouse leks.
Waiver:	This stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold can be occupied without adversely affecting sage grouse leks or the surrounding breeding habitat.

Resource: State Game Ranges (4)

Stipulation: No Surface Occupancy. Activity is prohibited within the boundary of State Game Ranges administered by FWP.

Objective: To protect FWP elk winter range necessary for long-term maintenance of regional elk populations.

Exception: None.

Modification: None.

Waiver: None.

Resource: Big Game Winter/Spring Range

Stipulation: Timing Limitation. No activity from December 1 through May 15 within winter range for wildlife.

Objective: To protect mule deer, elk, antelope, and moose winter range from disturbance during the winter/spring season, and to facilitate long-term maintenance of wildlife populations.

Exception: An exception to this stipulation may be granted by the authorized officer in consultation with FWP, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with FWP, determines that portions of the area no longer contain wildlife winter/spring range. The dates for the timing restriction may be modified if new wildlife use information indicates that the December 1 through May 15 dates are not valid for the leasehold.

Waiver: This stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold no longer contains winter/spring range for wildlife.

Resource: Elk Calving/Big Game Birthing Areas

Stipulation: Timing Limitation. Activity is prohibited from April 1 through June 30 in big game birthing areas.

Objective: To protect mule deer, elk, antelope, and moose birthing areas from disturbance and facilitate long-term maintenance of wildlife populations.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain birthing habitat for big game species. The dates for the timing restriction may be modified if new wildlife use information indicates that the dates are not valid for the leasehold.

Waiver: This stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold no longer contains big game birthing areas.

Resource: Bighorn Sheep Yearlong Range

Stipulation: Timing Limitation. Activity is prohibited from November 1 through June 30 in bighorn rutting, winter and lambing habitat.

Objective:	To protect bighorn rutting, winter and lambing habitat from disturbance and facilitate long-term maintenance of bighorn sheep populations.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain rutting, winter and lambing habitat for bighorn sheep. The dates for the timing restriction may be modified if new wildlife use information indicates that the November 1 through June 30 dates are not valid for the leasehold.
Waiver:	This stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold no longer contains bighorn sheep rutting, winter or lambing areas.
<u>Resource:</u>	Bighorn Sheep Core Areas
Stipulation:	No Surface Occupancy. Activity is prohibited within the bighorn sheep core areas in the Hidden Pasture area and the Greenhorn Mountains Reintroduction Area.
Objective:	To protect bighorn sheep yearlong habitat necessary for long-term maintenance of the Tendoy and Greenhorn Mountains bighorn sheep populations.
Exception:	An exception to this stipulation may be granted by the authorized officer, in consultation with FWP, if the operator submits a plan which demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer, in consultation with FWP, determines that portions of the HMP/Reintroduction area can be occupied without adversely affecting bighorn sheep use.
Waiver:	This stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold can be occupied without adversely affecting bighorn sheep use in the HMP or reintroduction areas.
<u>Resource:</u>	Bald Eagle Nest Sites/Breeding Habitat
Stipulation:	No Surface Occupancy. Activity is prohibited within 1/2 mile of bald eagle nest sites and within bald eagle nesting habitat in riparian areas.
Objective:	To protect bald eagle nesting sites and/or breeding habitat in accordance with the Endangered Species Act and the Montana Bald Eagle Management Plan.
Exception:	An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the bald eagle or its habitat. If the authorized officer determines that the action may have an adverse affect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the USFWS.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting bald eagles nest sites or nesting areas.
Waiver:	This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting bald eagle nest sites or nesting habitat.

Resource: Bald Eagle Nest Sites/Breeding Habitat

Stipulation: Timing Limitation. No activity is allowed from February 1 through August 31 in a one mile radius around bald eagle nest sites.

Objective: To protect bald eagle nesting site and/or breeding habitat in accordance with the Endangered Species Act and the Montana Bald Eagle Management Plan.

Exception: An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the bald eagle or its habitat. If the authorized officer determines that the action may have an adverse affect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the USFWS.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting bald eagle nest sites or nesting habitat.

Waiver: This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting bald eagle nest sites or nesting habitat.

Resource: Raptor Breeding Territories (Golden eagle, Prairie falcon, Swainson's hawk)

Stipulation: Timing Limitation. No activity from March 1 through July 31, within 1/2 mile of raptor nest sites which have been active within the past five years.

Objective: To protect reproductive potential of breeding habitat for special status raptors.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates the impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer are within one mile of raptor nest sites. The dates for the timing restriction may be modified if new information indicates that the dates are not valid for the leasehold.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer is within one mile of nest sites.

Resource: Waterfowl Production/Molting Areas

Stipulations: Timing Limitation. No activity permitted from April 1 through August 31 within 1/2 mile of waterfowl production and molting areas.

Objective: To protect waterfowl production and molting areas from disturbance and facilitate long-term maintenance of waterfowl populations.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer provides for waterfowl production or molting. The dates for the timing restriction may be modified if new wildlife use information indicates that the dates are not valid for the leasehold.

Waiver:	This stipulation may be waived if the authorized officer determines that the entire leasehold no longer provides waterfowl production or molting habitat.
<u>Resource:</u>	NAWCA/IMWJV Wetland Projects
Stipulation:	No Surface Occupancy. Activity is prohibited within 1/2 mile of NAWCA/IMWJV Wetland Projects.
Objective:	To protect wetland habitat areas and adjacent nesting areas acquired/developed through NAWCA/IMWJV partnerships necessary for long-term maintenance of regional populations of waterfowl and wetland dependent species.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting wetland habitat and dependent species.
Waiver:	None.
<u>Resource:</u>	Peregrine Falcon Nest Sites/Breeding Habitat
Stipulation:	No Surface Occupancy. Activity is prohibited within one mile of peregrine falcon nest sites.
Objective:	To protect peregrine falcon nesting sites and/or breeding habitat.
Exception:	An exception may be granted by the authorized officer if the operator submits a plan that demonstrates that the proposed action will not affect the peregrine falcon or its habitat. If the authorized officer determines that the action may have an adverse affect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with USFWS.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting peregrine falcon nest sites or breeding habitat.
Waiver:	This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting peregrine falcon nest sites or breeding habitat.
<u>Resource:</u>	Ferruginous Hawks
Stipulation:	No Surface Occupancy. Activity is prohibited within 1/2 mile of ferruginous hawk nest sites.
Objective:	To maintain the reproductive potential of ferruginous hawk nest sites.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrated that the impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting the production potential of ferruginous hawk nest sites.
Waiver:	This stipulation may be waived if the authorized officer determines that the entire leaseshold can be occupied without adversely affecting the production potential of ferruginous hawk nest sites.

Resource: **Ferruginous Hawk Breeding Territories**

Stipulation: Timing Limitation. No activity is permitted from March 1 to August 31 within one mile of hawk nest sites that have been active within the past five years.

Objective: To protect reproductive potential of breeding habitat for special status raptors.

Exception: An exception to this stipulation may be granted by the authorized officer of the operator submits a plan that demonstrates the impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer are within one mile of raptor nest sites. The dates for the timing restriction may be modified if new information indicates that the dates are not valid for the leasehold.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer is within one mile of ferruginous nest sites.

Resource: **Threatened, Endangered, and Special Status Species**

Stipulation: The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 *et seq.*, including completion of any required procedure for conference or consultation.

Objective: Avoid BLM-approved activity that will contribute to a need to list a species or their habitat as threatened or endangered.

Exception: None.

Modification: None.

Waiver: None.

Resource: **Westslope Cutthroat Trout Habitat (99-100% pure)**

Stipulation: No Surface Occupancy. No activity allowed within 1/2 mile from centerline of stream containing known populations of 99-100% genetically pure westslope cutthroat trout.

Objective: To ensure healthy aquatic habitat exists in drainages important to the viability of Upper Missouri River Basin Westslope Cutthroat Trout.

Exception: An exception may be granted after a site assessment is conducted and if the operator can demonstrate in a surface use plan of operations that adverse effects can be eliminated and activities would not affect sensitive trout populations. Apply the following mitigation measures:
 A) No net increase in sediment over existing condition; and
 B) No adverse effects on water quality and quantity.

Modification: None.

Waiver:	A waiver may granted if the Montana Department of Fish, Wildlife, and Parks determines the stream is no longer considered important to the viability of the species.
<u>Resource:</u>	Westslope Cutthroat Trout Habitat (90 up to 99% pure)
Stipulation:	Controlled Surface Use. Activities within 1/2 mile of streams containing 90 up to 99% genetically pure westslope cutthroat trout may be relocated, require special design, or require on and off site mitigation measures to prevent impacts to sensitive trout populations.
Objective:	To prevent sensitive aquatic habitat and trout populations from being impacted.
Exception:	An exemption may be granted after a site assessment is conducted and if the operator can demonstrate in a surface use plan of operations that adverse effects can be eliminated and activities would not affect sensitive trout populations. Apply the following mitigation measures: A) No net increase in sediment over existing condition. B) No adverse effects on water quality and quantity.
Modifications:	None
Waiver:	A waiver may be granted if the Montana Department of Fish, Wildlife and Parks determines the stream is no longer considered important to the viability of the species.
<u>Resource:</u>	Fluvial and Adfluvial Arctic Grayling Habitat
Stipulation:	No Surface Occupancy. Activities within 1/2 mile from centerline of occupied or influencing habitat, including the North Fork of the Big Hole River, the Big Hole, the Beaverhead and Ruby Rivers, and tributaries to Upper Red Rock Lake are prohibited.
Objective:	To ensure healthy aquatic habitat exists along rivers and tributaries important to the viability of fluvial and adfluvial arctic grayling.
Exception:	An exception may be granted if the Montana Department of Fish, Wildlife and Parks determines the Ruby and Beaverhead Rivers are no longer viable recovery sites. The following mitigation measures would apply: A) No net increase in sediment over existing condition; and B) No adverse effects on water quality or quantity.
Modification:	None.
Waiver:	None.
<u>Resource:</u>	Class 1 Fisheries
Stipulation:	No Surface Occupancy. Activity is prohibited within 1/2 mile from the centerline of Class 1 fishery streams (Blue Ribbon trout streams).
Objective:	To ensure healthy aquatic habitat are maintained along Class 1 fisheries.
Exception:	An exception may be granted if Montana Department of Fish, Wildlife, and Parks modify the Class 1 fisheries rating. Application of the following mitigation measures apply: A) No net increase in sediment over existing condition; and B) No adverse effects on water quality and quantity.
Modification:	None.
Waiver:	None.

Resource: Developed Recreation Sites

Stipulation: No Surface Occupancy. Surface occupancy and use is prohibited within 1/2 mile of developed recreation sites. Currently developed recreation sites include: Axolotl Lakes cabin and fishing access, Deadwood Gulch campground, Big Sheep Creek Back Country Byway, Maiden Rock boat launch, East Fork Blacktail Deer Creek Campground, Ney Ranch Recreation Site, Palisades Recreation Site, Red Mountain Day Use, Red Mountain Campground, Warm Springs Day Use, Bear Trap Wilderness Trailhead, Bear Trap Boat Launch, Fall Creek Day Use, Trail Creek Day Use, Kobayashi Beach, Ruby Creek Campground, Klutes Landing, and Shoshone Ridge.

Objective: To recognize and protect the public's opportunity for quality recreation experiences at those sites developed for that purpose. Since BLM recreation sites are generally developed to support the use of the surrounding lands, the one half mile buffer offers some protection for perpetuating those opportunities for which the site was developed, as well as protecting capital investments at the site.

Exception: An exception may be granted if a site is moved or eliminated.

Modification: The list of developed recreation sites may be modified if development is removed, or if a currently undeveloped site is developed in the future.

Waiver: A waiver may be granted if a site is moved or eliminated.

Resource: Special Recreation Management Areas (SRMAs)

Stipulation: Controlled Surface Use. Operations within SRMAs must be conducted within a manner that minimizes encounters and conflicts with recreation users. Proposed activities may not alter or depreciate important recreational values located outside of developed areas but within the SRMA boundary.

Objective: To prevent user conflicts and incompatible uses in areas with high recreational values and significant amounts of recreational activity.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating the impacts to recreation values and recreation users are acceptable or can be adequately mitigated.

Modification: The area affected by this stipulation may be modified by the authorized officer if the boundaries of the SRMA are changed.

Waiver: None.

Resource: Vehicle Use Restrictions

Stipulation: Controlled Surface Use. Oil and gas activities will comply with all motorized vehicle use and travel plan restrictions, including seasonal restrictions and areas closed to motorized travel.

Objective: To prevent degradation of various resource values protected by travel plan limitations and motorized vehicle use restrictions.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating the impacts to values being protected through vehicle use restrictions can be adequately mitigated.

Modification: None.

Waiver: None.

Resource: Cultural Resource Inventory Requirement

Stipulation: Controlled Surface Use. An inventory of those portions of the leased lands subject to proposed disturbance may be required prior to any surface disturbance to determine if cultural resources are present and to identify needed mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator shall:

1. Contact the Surface Management Agency (SMA) to determine if a cultural resource inventory is required. If an inventory is required, then;
2. The SMA will complete the required inventory; or the lessee or operator, at their option, may engage the services of a cultural resource consultant acceptable to the SMA to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the standard ten-acre minimum to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the SMA for review and approval no later than that time when an otherwise complete application for approval of drilling or subsequent surface-disturbing operation is submitted.
3. Implement mitigation measures required by the SMA. Mitigation may include the relocation of proposed lease-related activities or other protective measures such as data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the SMA, surface occupancy on that area must be prohibited. The lessee or operator shall immediately bring to the attention of the SMA any cultural resources discovered as a result of approved operations under this lease, and shall not disturb such discoveries until directed to proceed by the SMA.

Objective: Compliance with Section 106 of the National Historic Preservation Act is required for all actions which may affect cultural properties eligible to the National Register of Historic Places. Section 6 of the Oil and Gas Lease Terms (Form 3100-11) requires that operations be conducted in a manner that minimizes adverse impacts to cultural and other resources.

Exception: No exceptions will be granted.

Modification: No modifications will be granted.

Waiver: No waivers will be granted.

Resource: NRHP Eligible Properties/Districts

Stipulation: No Surface Occupancy. Occupancy and use is prohibited within, and for a distance of 300 feet from the boundaries of cultural properties and archaeological/historic districts determined to be eligible or potentially eligible to the National Register of Historic Places. This includes cultural properties designated for conservation use, scientific use, traditional use, public use, and experimental use. Defined archaeological districts include: Everson Creek/Black Canyon Quarry Complex; Muddy Creek Archaeological District; Lower Beartrap Canyon Archaeological District; and Beaverhead Rock.

Objective: To protect significant cultural properties and archaeological districts and their settings, and to avoid disturbance or inadvertent impacts to these resources.

Exception: An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that the adverse impacts to cultural properties eligible for the National Register of Historic Places, can be mitigated through data recovery, extensive recordation, or other acceptable means. Where impacts to cultural resources cannot be mitigated to the satisfaction of the Surface Managing Agency, surface occupancy of that area must be prohibited.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the designated site or district can be occupied without adversely affecting the cultural resource values for which the site or area was designated eligible.

Waiver: No waivers will be granted.

Resource: Traditional Cultural Properties

Stipulation: No Surface Occupancy. Activity is prohibited within 1/2 mile of the boundaries of cultural properties determined to be of particular importance to Native American groups, determined to be Traditional Cultural Properties, and/or designated for traditional use. Such properties include (but are not limited to) burial locations, pictograph/petroglyph sites, vision quest locations, plant gathering locations, and areas considered sacred or used for religious purposes.

Objective: To avoid disturbance and to protect archaeological properties of known significance to Native American groups, as well as traditional cultural properties, and the setting in which they occur.

Exception: An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that operations will be designed and/or located in such a manner as to have a minimal impact to the natural setting and characteristics of the immediate area and that adverse impacts to these traditional cultural properties can be mitigated in consultation with, and to the satisfaction of, affected Indian Tribes or Native American Groups.

Modification: No modifications will be granted.

Waiver: No waivers will be granted.

Resource: Paleontological Resource Inventory Requirement

Stipulation: Controlled Surface Use. In areas known to have a high potential for containing significant paleontological resources, the Lessee may be required to conduct a paleontological inventory prior to any surface disturbance. If inventory is required, the Lessee must engage the services of a qualified paleontologist, acceptable to the Surface Managing Agency, to conduct the inventory. An acceptable inventory report is to be submitted to the BLM for review and approval at the time a surface-disturbing plan of operations is submitted.

Objective: To preserve and protect significant vertebrate fossils and paleontological locales.

Exception: An exception may be granted if the area has already been inventoried for paleontological resources.

Modification: No modifications will be granted

Waiver: No waiver will be granted.

Resource: Known Paleontological Resources/Locales

Stipulation: No Surface Occupancy. Surface occupancy and use is prohibited within known paleontological sites/locales.

Objective: To preserve and protect significant vertebrate fossils and paleontological locales.

Exception: An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that the adverse impacts to significant paleontological resources can be mitigated through recovery and extensive recordation. Where impacts to paleontological resources cannot be mitigated to the satisfaction of the Surface Managing Agency, surface occupancy on that area must be prohibited.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the designated paleontological site/locale can be occupied without adversely affecting the resource values.

Waiver: No waiver will be granted.

Resource: VRM Class II, III & IV Areas

Stipulation: Controlled Surface Use. All surface disturbing activities and construction of semi-permanent and permanent facilities may require special design including location, painting, and camouflage to blend with the natural surroundings and meet the visual quality objectives for each respective class.

Objective: To control the visual impacts of activities and facilities within acceptable levels.

Exception: None.

Modification: None.

Waiver: None.

Resource: Special Status Plant Habitats

Stipulation: Controlled Surface Use. A field inspection will be conducted for special status plant species by the lessee prior to any surface disturbance. A list of special status plant species will be provided to the lessee at the time of the lease. Plant species on the list are subject to change over time as new information becomes available. Plant inventories must be conducted at a time of year when the target species are actively growing and flowering. An acceptable report must be provided to the BLM documenting the presence or absence of special status plants in the area proposed for surface disturbing activities. The findings of this report may result in restrictions to the operator's plans or may preclude use and occupancy.

Objective: Protect and conserve rare plants, associated plant communities and the habitat that supports them.

Exception: An exception may be granted if BLM determines that the portion of the lease identified for surface disturbing activities does not support special status plant species or provide potential habitat for these species.

Modification: The boundaries of the area to be inventoried for special status plants may be modified if BLM determines that a large portion of the lease identified for surface disturbing activities doesn't support special status plant species or provide potential habitat for these species.

Waiver: The field inspection and plant inventory may be waived by the authorized officer if he/she determines that the subject lease occurs in an area with no known populations of special status plant species and that the area doesn't provide habitat for those species.

Resource: Known or Discovered Special Status Plants or Populations

Stipulation: No Surface Occupancy. Surface occupancy and use is prohibited within 1/4 mile of special status plant populations.

Objective: Protect and conserve rare plants, associated plant communities and the habitat that supports them.

Exception: Justification for an exception is not apparent at this time.

Modification: The boundaries of the no surface occupancy area may be modified if BLM determines that land within 1/4 mile of the special status plant population does not provide potential habitat for those species.

Waiver: Justification for a waiver is not apparent at this time.

Resource: Wetlands, Floodplains, and Riparian Areas**Stipulation:** No Surface Occupancy. Activity is prohibited within wetlands, floodplains, and riparian areas.**Objective:** To maintain riparian/wetland functions and water quality.**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.**Modification:** None.**Waiver:** None.**Resource: Active Mass Movement Areas****Stipulation:** No Surface Occupancy. Use and occupancy is prohibited on areas of active mass movement (landslides).**Objectives:** To prevent potential damage to pipelines, well heads, and other facilities from landslides in areas of active mass movement.**Exception:** An exception may be granted if the operator can demonstrate in a plan of operations that adverse effects can be minimized and activities safely conducted.**Modification:** The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of area are not subject to mass movement. This stipulation may be modified by the authorized officer if the lessee provides a detailed engineering design and geologic analysis and a mitigation plan.**Waiver:** This stipulation may be waived by the authorized officer if it is determined that none of the leasehold is subject to mass movement.**Resource: Slopes $\geq 30\%$** **Stipulation:** Controlled Surface Use. Prior to surface disturbance on slopes greater than 30 percent, an engineering/reclamation plan must be approved by the authorized officer. Such plan must demonstrate how the following will be accomplished:

- Site productivity will be restored.
- Surface runoff will be adequately controlled.
- Off site areas will be protected from accelerated soil erosion.
- Surface disturbing activities will not be conducted during extended wet periods

Objective: To maintain soil productivity and provide necessary protection to prevent excessive soil erosion on steep slopes.**Exceptions:** An exception may be granted if the operator can demonstrate in a plan of operations that adverse effects can be minimized and activities safely conducted.**Modification:** The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of area do not include slopes over 30 percent, or the operator can demonstrate in a plan of operations that adverse effects can be minimized.**Waiver:** This stipulation may be waived by the authorized officer if it is determined that none of the leasehold contains slopes greater than 30 percent.

<u>Resources:</u>	Designated National Historic Trails – Lewis and Clark and Nez Perce Trail (Nee Me Poo Trail)
Stipulation:	No Surface Occupancy. Surface occupancy and use is prohibited within 1/2 mile of designated National Historic Trails. Designated National Historic Trails include the Lewis and Clark Trail and the Nez Perce (Nee Me Poo) Trail.
Objective:	To preserve and protect designated National Historic Trails and the natural setting in which they occur.
Exception:	No exceptions will be granted.
Modification:	No modifications will be granted.
Waiver:	No waivers will be granted.
<u>Resource:</u>	Continental Divide National Scenic Trail
Stipulation:	No Surface Occupancy. Surface occupancy and use is prohibited within 1/2 mile of the Continental Divide National Scenic Trail.
Objective:	To preserve and protect the existing scenic character of the landscape along the trail.
Exception:	None.
Modification:	None.
Waiver:	None.
<u>Resource:</u>	R&PPs and 2920 Authorizations
Stipulations:	No Surface Occupancy. Surface occupancy and use is prohibited on Recreation and Public Purposes leases and patents and on leases and permits authorized under regulations found at 43 CFR 2920.
Objective:	To protect developed facilities and commercial, recreational, and public uses and prevent incompatible uses on existing authorized areas.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be adequately mitigated in coordination with the holder of the land use authorization.
Modification:	The area affected by this stipulation may be modified by the authorized officer if the land use authorization boundaries are modified.
Waiver:	This stipulation may be waived by the authorized officer if all land use authorizations within a leasehold have been terminated, cancelled or relinquished.

ALTERNATIVE C OIL AND GAS STIPULATIONS

Resource: Sage Grouse Breeding Habitat

Stipulation: No Surface Occupancy. Surface occupancy and use is prohibited in sage grouse nesting and early-brood rearing habitat (defined as within three miles of leks).

Objective: To protect sage grouse breeding habitat necessary for long-term maintenance of regional sage grouse populations.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting sage grouse breeding habitat.

Waiver: This stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold can be occupied without adversely affecting sage grouse breeding habitat.

Resource: Threatened, Endangered, and Special Status Species

Stipulation: The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 *et seq.*, including completion of any required procedure for conference or consultation.

Objective: Avoid BLM-approved activity that will contribute to a need to list a species or their habitat as threatened or endangered.

Exception: None.

Modification: None.

Waiver: None.

Resource: Westslope Cutthroat Trout Habitat

Stipulation: No Surface Occupancy. Surface use and occupancy is prohibited on streams supporting westslope cutthroat trout with genetic purity from 90 up to 99 percent.

Objective: To ensure healthy aquatic habitat exists in drainages important to the viability of Upper Missouri River Basin Westslope Cutthroat Trout.

Exception: An exception may be granted after a site assessment is conducted and if the operator can demonstrate in a surface use plan of operations that adverse effects can be eliminated and activities would not affect sensitive trout populations. The following mitigation measures would apply:

- A) No net increase in sediment over existing condition.
- B) No adverse effects on water quality and quantity.

Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines, in consultation with Montana Department of Fish, Wildlife and Parks, that portions of the area can be occupied without adversely affecting westslope cutthroat trout habitat.
Waiver:	A waiver may be granted if it is determined, in consultation with the Montana Department of Fish, Wildlife, and Parks, that the entire leasehold does not contain any streams containing westslope cutthroat trout populations.
<u>Resource:</u>	Fluvial and Adfluvial Arctic Grayling Habitat
Stipulation:	No Surface Occupancy. Activity is prohibited within one mile from centerline of occupied or influencing habitat, specifically the North Fork of the Big Hole River, the Big Hole, the Beaverhead and Ruby Rivers, and tributaries to Upper Red Rock Lake.
Objective:	To ensure healthy aquatic habitat exists along rivers and tributaries important to the viability of fluvial and adfluvial arctic grayling.
Exception:	An exception may be granted if the FWP determines the Ruby and Beaverhead Rivers are no longer viable recovery sites.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines, in consultation with FWP, that portions of the area can be occupied without adversely affecting westslope cutthroat trout habitat. The following mitigation measures would apply: <ul style="list-style-type: none"> • No net increase in sediment over existing condition • No adverse effects on water quality or quantity
Waiver:	Justification for a waiver is not apparent at this time.
<u>Resource:</u>	Class 1 Fisheries
Stipulation:	No Surface Occupancy. Activity is prohibited within one mile from the centerline of Class 1 fishery streams (Blue Ribbon trout streams).
Objective:	To ensure healthy aquatic habitat are maintained along Class 1 fisheries.
Exception:	An exception may be granted if Montana Department of Fish, Wildlife, and Parks modify the Class 1 fisheries rating. Application of the following mitigation measures apply: <ul style="list-style-type: none"> A) No net increase in sediment over existing condition; and B) No adverse effects on water quality and quantity.
Modification:	None.
Waiver:	None.
<u>Resource:</u>	Developed Recreation Sites
Stipulation:	No Surface Occupancy. Surface occupancy and use is prohibited within the boundaries of developed recreation sites. Currently developed recreation sites include: Axolotl Lakes cabin and fishing access, Deadwood Gulch campground, Big Sheep Creek Back Country Byway, Maiden Rock boat launch, East Fork Blacktail Deer Creek Campground, Ney Ranch Recreation Site, Palisades Recreation Site, Red Mountain Day Use, Red Mountain Campground, Warm Springs Day Use, Bear Trap Wilderness Trailhead, Bear Trap Boat Launch, Fall Creek Day Use, Trail Creek Day Use, Kobayashi Beach, Ruby Creek Campground, Klutes Landing, and Shoshone Ridge.
Objective:	To recognize and protect the public's opportunity for quality recreation experiences at those sites developed for that purpose. Since BLM recreation sites are generally developed to support the use of the surrounding lands, the 1/2 mile buffer offers some protection for perpetuating those opportunities for which the site was developed, as well as protecting capital investments at the site.

Exception:	An exception may be granted if a site is moved or eliminated.
Modification:	The list of developed recreation sites may be modified if development is removed, or if a currently undeveloped site is developed in the future.
Waiver:	A waiver may be granted if a site is moved or eliminated.
<u>Resource:</u>	Special Recreation Management Areas (SRMAs)
Stipulation:	No Surface Occupancy. Activity is prohibited within the boundaries of areas designated as SRMAs.
Objective:	To prevent user conflicts and incompatible uses in areas with high recreational values and significant amounts of recreational activity.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating the impacts to recreation values and recreation users are acceptable or can be adequately mitigated.
Modification:	The area affected by this stipulation may be modified by the authorized officer if the boundaries of the SRMA are changed.
Waiver:	None.
<u>Resource:</u>	Vehicle Use Restrictions
Stipulation:	Controlled Surface Use. Oil and gas activities will comply with all motorized vehicle use and travel plan restrictions, including seasonal restrictions and areas closed to motorized travel.
Objective:	To prevent degradation of various resource values protected by travel plan limitations and motorized vehicle use restrictions.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating the impacts to values being protected through vehicle use restrictions can be adequately mitigated.
Modification:	None.
Waiver:	None.
<u>Resource:</u>	Cultural Resource Inventory Requirement
Stipulation:	<p>Controlled Surface Use. An inventory of those portions of the leased lands subject to proposed disturbance may be required prior to any surface disturbance to determine if cultural resources are present and to identify needed mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator shall:</p> <ol style="list-style-type: none"> 1. Contact the Surface Management Agency (SMA) to determine if a cultural resource inventory is required. If an inventory is required, then; 2. The SMA will complete the required inventory; or the lessee or operator, at their option, may engage the services of a cultural resource consultant acceptable to the SMA to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the standard ten-acre minimum to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the SMA for review and approval no later than that time when an otherwise complete application for approval of drilling or subsequent surface-disturbing operation is submitted. 3. Implement mitigation measures required by the SMA. Mitigation may include the relocation of proposed lease-related activities or other protective measures such as data recovery and extensive

recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the SMA, surface occupancy on that area must be prohibited. The lessee or operator shall immediately bring to the attention of the SMA any cultural resources discovered as a result of approved operations under this lease, and shall not disturb such discoveries until directed to proceed by the SMA.

Objective: Compliance with Section 106 of the National Historic Preservation Act is required for all actions which may affect cultural properties eligible to the National Register of Historic Places. Section 6 of the Oil and Gas Lease Terms (Form 3100-11) requires that operations be conducted in a manner that minimizes adverse impacts to cultural and other resources.

Exception: No exceptions will be granted.

Modification: No modifications will be granted.

Waiver: No waivers will be granted.

Resource: **NRHP Eligible Properties/Districts**

Stipulation: No lease is permitted within the boundaries of National Register eligible properties and/or districts.

No Surface Occupancy is allowed within 1/2 mile of the boundaries of cultural sites/districts eligible for, or designated as, National Register sites.

Objective: To avoid disturbance and to protect significant cultural properties and the setting in which they occur.

Exception: An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that the adverse impacts to cultural properties can be mitigated through data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the Surface Managing Agency, surface occupancy on that area must be prohibited.

Modification: None.

Waiver: None.

Resource: **Traditional Cultural Properties**

Stipulation: No lease is permitted within the boundaries of cultural properties determined to be of particular importance to Native American groups, determined to be Traditional Cultural Properties, and for properties designated for traditional use.

No Surface Occupancy is allowed within 1/2 mile of the boundaries of cultural properties determined to be of particular importance to Native American groups, determined to be Traditional Cultural Properties, and/or designated for traditional use. Such properties include (but are not limited to) burial locations, pictograph/petroglyph sites, vision quest locations, plant gathering locations, and areas considered sacred or used for religious purposes.

Objective: To avoid disturbance and to protect cultural properties determined to be of particular importance to Native American Groups, determined to be Traditional Cultural Properties (TCP's), and/or designated for traditional use and the settings in which they occur.

Exception: An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that operations will be designed and/or located in such a manner as to have a minimal impact to the natural setting and characteristics of the immediate area and that adverse impacts to these traditional cultural properties can be mitigated in consultation with, and to the satisfaction of, affected Indian Tribes or Native American Groups.

Modification: None.

Waiver: None.

Resource: **Paleontological Resource Inventory Requirement**

Stipulations: Controlled Surface Use. In areas known to have a high potential for containing significant paleontological resources, the Lessee may be required to conduct a paleontological inventory prior to any surface disturbance. If inventory is required, the Lessee must engage the services of a qualified paleontologist, acceptable to the Surface Managing Agency, to conduct the inventory. An acceptable inventory report is to be submitted to the BLM for review and approval at the time a surface disturbing plan of operations is submitted.

Objective: To preserve and protect significant vertebrate fossils paleontological sites/localities.

Exception: No exceptions will be granted.

Modification: No modifications will be granted.

Waiver: No waiver will be granted.

Resource: **VRM Class II, III & IV**

Stipulation: Controlled Surface Use. All surface disturbing activities, semi-permanent facilities may require special design including location, painting and camouflage to blend with the natural surroundings and meet the visual quality objectives for respective class.

Objective: To control the visual impacts of activities and facilities within acceptable levels.

Exception: None.

Modification: None.

Waiver: None.

Resource: **Special Status Plant Habitats**

Stipulation: Controlled Surface Use. A field inspection will be conducted for special status plant species by the lessee prior to any surface disturbance. A list of special status plant species will be provided to the lessee at the time of the lease. Plant species on the list are subject to change over time as new information becomes available. Plant inventories must be conducted at a time of year when the target species are actively growing and flowering. An acceptable report must be provided to the BLM documenting the presence or absence of special status plants in the area proposed for surface disturbing activities. The findings of this report may result in restrictions to the operator's plans or may preclude use and occupancy.

Objective: Protect and conserve rare plants, associated plant communities and the habitat that supports them.

Exception: An exception may be granted if BLM determines that the portion of the lease identified for surface disturbing activities doesn't support special status plant species or provide potential habitat for these species.

Modification: The boundaries of the area to be inventoried for special status plants may be modified if BLM determines that a large portion of the lease identified for surface disturbing activities doesn't support special status plant species or provide potential habitat for these species.

Waiver:	The field inspection and plant inventory may be waived by the authorized officer if he/she determines that the subject lease occurs in an area with no known populations of special status plant species and that the area doesn't provide habitat for those species.
<u>Resource:</u>	Known or Discovered Special Status Plants or Populations
Stipulation:	No Surface Occupancy. Surface occupancy and use is prohibited within 1/4 mile of special status plant populations.
Objective:	Protect and conserve rare plants, associated plant communities and the habitat that supports them.
Exception:	Justification for an exception is not apparent at this time.
Modification:	The boundaries of the no surface occupancy area may be modified if BLM determines that land within 1/2 mile of the special status plant population does not provide potential habitat for those species.
Waiver:	Justification for a waiver is not apparent at this time.
<u>Resource:</u>	Wetlands, Floodplains, and Riparian Areas
Stipulation:	No Surface Occupancy. No Surface Occupancy. Activity is prohibited within wetlands, floodplains, and riparian areas.
Objective:	To maintain riparian/wetland functions and water quality.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	None.
Waiver:	None.
<u>Resource:</u>	Active Mass Movement Areas
Stipulation:	No Surface Occupancy. Surface occupancy is prohibited on areas of active mass movement (landslides).
Objectives:	To prevent potential damage to pipelines, well heads, and other facilities from landslides in areas of active mass movement.
Exception:	An exception may be granted if the operator can demonstrate in a plan of operations that adverse effects can be minimized and activities safely conducted.
Modification:	The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of area are not subject to mass movement. This stipulation may be modified by the authorized officer if the lessee provides a detailed engineering design and geologic analysis and a mitigation plan.
Waiver:	This stipulation may be waived by the authorized officer if it is determined that none of the leasehold is subject to mass movement.

<u>Resource:</u>	Slopes $\geq 30\%$
Stipulation:	Controlled Surface Use. Prior to surface disturbance on slopes greater than 30 percent, an engineering/reclamation plan must be approved by the authorized officer. Such plan must demonstrate how the following will be accomplished: <ul style="list-style-type: none"> • Site productivity will be restored. • Surface runoff will be adequately controlled. • Off site areas will be protected from accelerated soil erosion. • Surface disturbing activities will not be conducted during extended wet periods
Objective:	To maintain soil productivity and provide necessary protection to prevent excessive soil erosion on steep slopes.
Exceptions:	An exception may be granted if the operator can demonstrate in a plan of operations that adverse effects can be minimized and activities safely conducted.
Modification:	The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of area do not include slopes over 30 percent, or the operator can demonstrate in a plan of operations that adverse effects can be minimized.
Waiver:	This stipulation may be waived by the authorized officer if it is determined that none of the leasehold contains slopes greater than 30 percent.
<u>Resource:</u>	National Historic Landmarks
Stipulation:	No lease is permitted within the boundaries of National Historic Landmarks. No Surface Occupancy is allowed within 1/2 mile of the boundaries of National Historic Landmarks.
Objective:	To protect significant National Historic Landmarks and the natural setting and visual characteristics of the landscape in which they occur.
Exception:	There will be no exceptions granted.
Modification:	There will be no modifications granted.
Waiver:	There will be no waivers granted.
<u>Resource:</u>	Rivers Suitable for WSR Designation
Stipulation:	Controlled Surface Use. Operations within river corridors determined to be suitable for designation under the Wild and Scenic Rivers Act may not alter or depreciate the outstandingly remarkable values within the river corridor, degrade the tentative classification, or impact the free-flow of the river. Suitable rivers include segments of the Beaverhead River, Bear Creek, Big Hole River, Big Sheep Creek, and Madison River.
Objective:	To protect river corridors considered suitable for inclusion in the National Wild and Scenic Rivers system and the associated outstandingly remarkable values.
Exception:	None.
Modification:	None.
Waiver:	None.

<u>Resource:</u>	R&PPs and 2920 Authorizations
Stipulation:	No Surface Occupancy. Surface occupancy and use is prohibited on Recreation and Public Purposes leases and patents and on leases and permits authorized under regulations found at 43 CFR 2920.
Objective:	To protect developed facilities and commercial, recreational, and public uses and prevent incompatible uses on existing authorized areas.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can adequately mitigated in coordination with the holder of the land use authorization.
Modification:	The area affected by this stipulation may be modified by the authorized officer if the land use authorization boundaries are modified.
Waiver:	This stipulation may be waived by the authorized officer if all land use authorizations within a leasehold have been terminated, cancelled or relinquished.

ALTERNATIVE D OIL AND GAS STIPULATIONS

<u>Resource:</u>	Sage Grouse Winter/Spring Range
Stipulation:	Timing Limitation. No activity from December 1 through May 15 within winter/spring range for sage grouse.
Objective:	To protect sage grouse winter range from disturbance during the winter/spring season, and to facilitate long-term maintenance of wildlife populations.
Exception:	An exception to this stipulation may be granted by the authorized officer in consultation with FWP if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain sage grouse winter/spring range. The dates for the timing restriction may be modified if new information indicates that the December 1 through May 15 dates are not valid for the leasehold.
Waiver:	This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains sage grouse winter/spring range, or if in coordination with FWP, determines that the area is not critical for sage grouse.
<u>Resource:</u>	Sage Grouse Strutting Grounds (Leks)
Stipulation:	No Surface Occupancy. Activity is prohibited within 1/4 mile of sage grouse leks.
Objective:	To protect sage grouse strutting grounds and leks to maintain regional sage grouse populations.
Exception:	An exception to this stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting sage grouse leks.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting sage grouse leks.
Waiver:	The stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold can be occupied without adversely affecting sage grouse leks.
<u>Resource:</u>	Sage Grouse Breeding Habitat
Stipulation:	Timing Limitation. Activity is restricted from March 1 through June 30 in nesting and early brood-rearing habitat (defined as within three miles of leks).
Objective:	To protect sage grouse leks and breeding habitat necessary for long-term maintenance of regional sage grouse populations.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting sage grouse leks.
Waiver:	This stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold can be occupied without adversely affecting sage grouse leks or the surrounding breeding habitat.

Resource: **State Game Ranges**

Stipulation: No Surface Occupancy. Activity is prohibited within the boundary of State Game Ranges administered by FWP.

Objective: To protect FWP elk winter range necessary for long-term maintenance of regional elk populations.

Exception: None.

Modification: None.

Waiver: None.

Resource: **Big Game Winter/Spring Range**

Stipulation: Timing Limitation. No activity from December 1 through May 15 within winter range for wildlife.

Objective: To protect mule deer, elk, antelope, and moose winter range from disturbance during the winter/spring season, and to facilitate long-term maintenance of wildlife populations.

Exception: An exception to this stipulation may be granted by the authorized officer in consultation with FWP, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with FWP, determines that portions of the area no longer contain wildlife winter/spring range. The dates for the timing restriction may be modified if new wildlife use information indicates that the December 1 to May 15 dates are not valid for the leasehold.

Waiver: This stipulation may be waived if the authorized officer, in consultation with FWP, determines that the entire leasehold no longer contains winter/spring range for wildlife.

Resource: **Bald Eagle Nest Sites/Breeding Habitat**

Stipulation: No Surface Occupancy. Activity is prohibited within 1/2 mile of bald eagle nest sites and within bald eagle nesting habitat in riparian areas.

Objective: To protect bald eagle nesting sites and/or breeding habitat in accordance with the Endangered Species Act (ESA) and the Montana Bald Eagle Management Plan.

Exception: An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the bald eagle or its habitat. If the authorized officer determines that the action may have an adverse affect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the USFWS.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting bald eagle nest sites or nesting habitat.

Waiver: This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting bald eagle nest sites or nesting habitat.

<u>Resource:</u>	Waterfowl Production/Molting Areas
Stipulation:	Timing Limitation. No activity is allowed from April 1 through August 31 in waterfowl production and molting areas.
Objective:	To protect waterfowl production and molting areas from disturbance and facilitate long-term maintenance of waterfowl populations.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer provides for waterfowl production or molting. The dates for the timing restriction may be modified if new wildlife use information indicates that the dates are not valid for the leasehold.
Waiver:	This stipulation may be waived if the authorized officer determines that the entire leasehold no longer provides waterfowl production or molting habitat.
<u>Resource:</u>	NAWCA/IMWJV Wetland Projects
Stipulation:	No Surface Occupancy. Activity and use is prohibited within the boundaries of NAWCA / IMWJV Wetland Projects
Objective:	To protect wetland habitat areas acquired/developed through NAWCA/IMWJV partnerships necessary for long-term maintenance of regional populations of waterfowl and wetland dependent species
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting wetland habitat and dependent species.
Waiver:	None.
<u>Resource:</u>	Peregrine Falcon Nest Sites/Breeding Habitat
Stipulation:	No Surface Occupancy. Activity is prohibited within one mile of peregrine falcon nest sites.
Objective:	To protect peregrine falcon nesting sites and/or breeding habitat.
Exception:	An exception may be granted by the authorized officer if the operator submits a plan that demonstrates that the proposed action will not affect the peregrine falcon or its habitat. If the authorized officer determines that the action may have an adverse affect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with USFWS.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting peregrine falcon nest sites or breeding habitat.
Waiver:	This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting peregrine falcon nest sites or breeding habitat.

<u>Resource:</u>	Ferruginous Hawk Breeding Territories
Stipulation:	Timing Limitation. No activity permitted from March 1 through July 31 within 1/2 mile of hawk nest sites that have been active within the past five years.
Objective:	To protect reproductive potential of breeding habitat for special status raptors.
Exception:	An exception to this stipulation may be granted by the authorized officer of the operator submits a plan that demonstrates the impacts from the proposed action are minimal or can be adequately mitigated.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer are within one half mile of raptor nest sites. The dates for the timing restriction may be modified if new information indicates that the dates are not valid for the leasehold.
Waiver:	This stipulation may be waived if the authorized officer determines that the entire leasehold no longer is within one half mile of raptor nest sites.
<u>Resource:</u>	Threatened, Endangered, and Special Status Species
Stipulation:	The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 <i>et seq.</i> , including completion of any required procedure for conference or consultation.
Objective:	Avoid BLM-approved activity that will contribute to a need to list a species or their habitat as threatened or endangered.
Exception:	None.
Modification:	None.
Waiver:	None.
<u>Resource:</u>	Westslope Cutthroat Trout Habitat (99-100% pure)
Stipulation:	Controlled Surface Use. Activities within 1/2 mile of streams containing populations of westslope cutthroat trout with purity of 99% or greater may be relocated, require special design, or require on and off site mitigation measures to prevent impacts to sensitive trout populations.
Objective:	To prevent sensitive aquatic habitat and trout populations from being impacted.
Exception:	An exemption may be granted after a site assessment is conducted and if the operator can demonstrate in a surface use plan of operations that adverse effects can be eliminated and activities would not affect sensitive trout populations. Apply the following mitigation measures: A) No net increase in sediment over existing condition. B) No adverse effects on water quality and quantity.
Modifications:	None
Waiver:	A waiver may be granted if the Montana Department of Fish, Wildlife and Parks determines the stream is no longer considered important to the viability of the species.

<u>Resource:</u>	Westslope Cutthroat Trout Habitat (90 to 99% pure)
Stipulation:	Controlled Surface Use. Activities within streams containing westslope cutthroat trout with genetic purity between 90% and 99% may be relocated, require special design, or require on and off site mitigation measures to prevent impacts to sensitive trout populations.
Objective:	To prevent sensitive aquatic habitat and trout populations from being impacted.
Exception:	An exemption may be granted after a site assessment is conducted and if the operator can demonstrate in a surface use plan of operations that adverse effects can be eliminated and activities would not affect sensitive trout populations. Apply the following mitigation measures: A) No net increase in sediment over existing condition. B) No adverse effects on water quality and quantity.
Modifications:	None
Waiver:	A waiver may be granted if the Montana Department of Fish, Wildlife and Parks determines the stream is no longer considered important to the viability of the species.
<u>Resource:</u>	Fluvial and Adfluvial Arctic Grayling Habitat
Stipulation:	Controlled Surface Use. Activities may be relocated, require special design, or require on and off site mitigation measures to prevent impacts to grayling populations and habitat located in the North Fork of the Big Hole, Big Hole, Beaverhead and Ruby Rivers, and in tributaries to Upper Red Rock Lake.
Objective:	To ensure healthy aquatic habitat exists along rivers and tributaries important to the viability of fluvial and adfluvial arctic grayling.
Exception:	An exception may be granted if the Montana Department of Fish, Wildlife and Parks determines the Ruby and Beaverhead Rivers are no longer viable recovery sites. The following mitigation measures would apply: A) No net increase in sediment over existing condition. B) No adverse effects on water quality or quantity.
Modification:	None
Waiver:	Justification for a waiver is not apparent at this time.
<u>Resource:</u>	Class 1 Fisheries
Stipulation:	Controlled Surface Use. Activities within 1/2 mile from the centerline of Class 1 fisheries may be relocated, require special design, or require on and off site mitigation measures to prevent impacts to grayling populations and habitat.
Objective:	To ensure healthy aquatic habitat is maintained along Class 1 fisheries. To require that activities within important Class 1 fisheries may be relocated, require special design, and additional on and off site mitigation measures to prevent sensitive aquatic habitat and trout populations from being impacted from oil and gas activities.
Exception:	An exception may be granted if Montana Department of Fish, Wildlife, and Parks modify the Class1 fisheries rating. Application of the following mitigation measures apply: A) No net increase in sediment over existing condition. B) No adverse effects on water quality and quantity.
Modification:	None

Waiver:	Justification for a waiver is not apparent at this time.
<u>Resource:</u>	Developed Recreation Sites
Stipulation:	Controlled Surface Use. Activities within 1/4 mile of developed recreation sites must be conducted in a manner to minimize surface disturbance, avoid facilities, and minimize contact with other public land users.
Objective:	To recognize and protect the public's opportunity for quality recreation experiences at those sites developed for that purpose. A 1/4 mile buffer would protect capital investment and, to some extent, visitors' recreation experiences while at the site.
Exception:	An exception may be granted if a site is moved or eliminated.
Modification:	The list of developed recreation sites may be modified if development is removed, or if a currently undeveloped site is developed in the future.
Waiver:	A waiver may be granted if a site is moved or eliminated.
<u>Resource:</u>	Vehicle Use Restrictions
Stipulation:	Controlled Surface Use. Oil and gas activities will comply with all motorized vehicle use and travel plan restrictions, including seasonal restrictions and areas closed to motorized travel.
Objective:	To prevent degradation of various resource values protected by travel plan limitations and motorized vehicle use restrictions.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating the impacts to values being protected through vehicle use restrictions can be adequately mitigated.
Modification:	None.
Waiver:	None.
<u>Resource:</u>	Cultural Resource Inventory Requirement
Stipulation:	<p>Controlled Surface Use. An inventory of those portions of the leased lands subject to proposed disturbance may be required prior to any surface disturbance to determine if cultural resources are present and to identify needed mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator shall:</p> <ol style="list-style-type: none"> 1. Contact the Surface Management Agency (SMA) to determine if a cultural resource inventory is required. If an inventory is required, then; 2. The SMA will complete the required inventory; or the lessee or operator, at their option, may engage the services of a cultural resource consultant acceptable to the SMA to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the standard ten-acre minimum to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the SMA for review and approval no later than that time when an otherwise complete application for approval of drilling or subsequent surface-disturbing operation is submitted. 3. Implement mitigation measures required by the SMA. Mitigation may include the relocation of proposed lease-related activities or other protective measures such as data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the SMA, surface occupancy on that area must be prohibited. The lessee or operator shall immediately bring to the attention of the SMA any cultural resources discovered as a result of approved operations under this lease, and shall not disturb such discoveries until directed to proceed by the SMA.

Objective:	Compliance with Section 106 of the National Historic Preservation Act is required for all actions which may affect cultural properties eligible to the National Register of Historic Places. Section 6 of the Oil and Gas Lease Terms (Form 3100-11) requires that operations be conducted in a manner that minimizes adverse impacts to cultural and other resources.
Exception:	No exceptions will be granted.
Modification:	No modifications will be granted.
Waiver:	No waivers will be granted.
<u>Resource:</u>	NRHP Eligible Properties/Districts
Stipulation:	No Surface Occupancy. Activity is prohibited within the boundaries of sites/districts eligible for or listed on the National Register.
Objective:	To avoid disturbance and to protect significant cultural properties/districts
Exception:	An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that the adverse impacts to cultural properties can be mitigated through data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the Surface Managing Agency, surface occupancy on that area must be prohibited.
Modification:	No modifications will be granted.
Waiver:	No waivers will be granted.
<u>Resource:</u>	Traditional Cultural Properties
Stipulation:	No Surface Occupancy. Activity is prohibited within the boundaries of cultural properties determined to be of particular importance to Native American Groups, determined to be Traditional Cultural Properties (TCP's), and/or designated for traditional use.
Objective:	To avoid disturbance and to protect cultural properties determined to be of particular importance to Native American Groups, determined to be Traditional Cultural Properties (TCP's), and/or designated for traditional use and the settings in which they occur.
Exception:	An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that adverse impacts to cultural properties determined to be of particular importance to Native American Groups, determined to be Traditional Cultural Properties (TCPs), and/or designated for traditional use and the settings in which they occur, can be mitigated in consultation with, and to the satisfaction of, affected Indian Tribes or Native American Groups.
Modification:	No modifications will be granted.
Waiver:	No waivers will be granted.
<u>Resource:</u>	Paleontological Resource Inventory Requirement
Stipulations:	Controlled Surface Use. In areas known to have a high potential for containing significant paleontological resources, the Lessee may be required to conduct a paleontological inventory prior to any surface disturbance. If inventory is required, the Lessee must engage the services of a qualified paleontologist, acceptable to the SMA, to conduct the inventory. An acceptable inventory report is to be submitted to the BLM for review and approval at the time a surface disturbing plan of operations is submitted.

Objective:	To preserve and protect significant vertebrate fossils paleontological sites/localities.
Exception:	No exceptions will be granted..
Modification:	No modifications will be granted.
Waiver:	No waiver will be granted.
<u>Resource:</u>	Known Paleontological Resources/Locales
Stipulation:	No Surface Occupancy. Surface occupancy and use is prohibited within known paleontological sites/locales.
Objective:	To preserve and protect significant vertebrate fossils and paleontological locales.
Exception:	An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that the adverse impacts to significant paleontological resources can be mitigated through recovery and extensive recordation. Where impacts to paleontological resources cannot be mitigated to the satisfaction of the Surface Managing Agency, surface occupancy on that area must be prohibited.
Modification:	The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the designated paleontological site/locale can be occupied without adversely affecting the resource values.
Waiver:	No waiver will be granted.
<u>Resource:</u>	Special Status Plant Habitats
Stipulation:	Controlled Surface Use. A field inspection will be conducted for special status plant species by the lessee prior to any surface disturbance. A list of special status plant species will be provided to the lessee at the time of the lease. Plant species on the list are subject to change over time as new information becomes available. Plant inventories must be conducted at a time of year when the target species are actively growing and flowering. An acceptable report must be provided to the BLM documenting the presence or absence of special status plants in the area proposed for surface disturbing activities. The findings of this report may result in restrictions to the operator's plans or may preclude use and occupancy.
Objective:	Protect and conserve rare plants, associated plant communities and the habitat that supports them.
Exception:	An exception may be granted if BLM determines that the portion of the lease identified for surface disturbing activities doesn't support special status plant species or provide potential habitat for these species.
Modification:	The boundaries of the area to be inventoried for special status plants may be modified if BLM determines that a large portion of the lease identified for surface disturbing activities does not support special status plant species or provide potential habitat for these species.
Waiver:	The field inspection and plant inventory may be waived by the authorized officer if he/she determines that the subject lease occurs in an area with no known populations of special status plant species and that the area doesn't provide habitat for those species.
<u>Resource:</u>	Known or Discovered Special Status Plants or Populations
Stipulation:	No Surface Occupancy. Surface occupancy and use is prohibited within special status plant population locations.

Objective:	Protect and conserve rare plants, associated plant communities and the habitat that supports them.
Exception:	Justification for an exception is not apparent at this time.
Modification:	Justification for a modification is not apparent at this time.
Waiver:	Justification for a waiver is not apparent at this time.
<u>Resource:</u>	National Historic Landmarks
Stipulation:	No Surface Occupancy. Activity is prohibited within the boundary of designated National Historic Landmarks.
Objective:	To protect significant designated National Historic Landmarks.
Exception:	No exceptions will be granted.
Modification:	No modification will be granted.
Waiver:	No waivers will be granted.
<u>Resource:</u>	R&PPs and 2920 Authorizations
Stipulations:	No Surface Occupancy. Surface occupancy and use is prohibited on Recreation and Public Purposes leases and patents and on leases and permits authorized under regulations found at 43 CFR 2920.
Objective:	To protect developed facilities and commercial, recreational, and public uses and prevent incompatible uses on existing authorized areas.
Exception:	An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be adequately mitigated in coordination with the holder of the land use authorization.
Modification:	The area affected by this stipulation may be modified by the authorized officer if the land use authorization boundaries are modified.
Waiver:	This stipulation may be waived by the authorized officer if all land use authorizations within a leasehold have been terminated, cancelled or relinquished.

Form 100-11
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
OFFER TO LEASE AND LEASE FOR OIL AND GAS

FORM APPROVED
OMB NO. 1004-0145
Expires: 01/03/2005

Serial Number

The undersigned (hereby) offers to lease all or any of the lands in Item 2 that are available for lease pursuant to the Mineral Leasing Act of 1920, as amended and supplemental (36 U.S.C. 181 et seq.), the Mineral Leasing Act for Acquired Lands of 1947, as amended (50 U.S.C. 251-259), the Attorney General's Opinion of April 2, 1941 (40 Op. Atty. Gen. 41), or the

READ INSTRUCTIONS BEFORE COMPLETING

1. Name

Street

City, State, Zip Code

2. This application/offer/lease is for: (Check only One) ☐ PUBLIC DOMAIN LANDS ☐ ACQUIRED LANDS (specify U.S. interest _____)

Bureau managing agency if other than BLM: _____ Unit/Project _____

Legal description of land proposed: _____ *Parcel No. _____ *Sale Date (month): ____ / ____ / ____

SEE ITEM 2 IN INSTRUCTIONS BELOW PRIOR TO COMPLETING PARCEL NUMBER AND SALE DATE.

T. _____ R. _____ Meridian _____ State _____ County _____

Amount needed: Filing fee \$ _____ Rental fee \$ _____ Total acres applied for _____
Total \$ _____

DO NOT WRITE BELOW THIS LINE

3. Land included in lease:

T. _____ R. _____ Meridian _____ State _____ County _____

Total acres in lease _____
Rental retained \$ _____

This lease is issued granting the exclusive right to drill for, mine, extract, remove and dispose of all the oil and gas (except helium) in the lands described in Item 3 together with the right to build and maintain necessary improvements thereon for the term indicated below, subject to renewal or extension in accordance with the appropriate leasing authority. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and federal orders in effect as of lease issuance, and to regulations and federal orders hereafter promulgated when not inconsistent with lease rights granted or specific provisions of this lease.

NOTE: This lease is issued to the high bidder pursuant to higher duty executed bid or nomination form submitted under 43 CFR 3126 and is subject to the provisions of that bid or nomination and those specified on this form.

Type and primary term of lease:

THE UNITED STATES OF AMERICA

☐ Noncompetitive lease (ten years)by _____
(Signing Officer)☐ Competitive lease (ten years)

(Term) _____ (Date) _____

☐ Other _____

EFFECTIVE DATE OF LEASE _____

(Continued on reverse)

To:

INSTRUCTIONS

To:

A. General

1. The front of this form is to be completed only by parties filing for a noncompetitive lease. The BLM will complete front of form for all other types of leases.

2. Entries must be typed or printed plainly in ink. Offense must sign Item 4 in ink.

3. An original and two copies of this offer must be prepared and filed in the proper BLM State Office. See regulations at 43 CFR 1821.2-1 for office locations.

4. If more space is needed, additional sheets must be attached to each copy of the form submitted.

B. Special:

Item 1—Enter offeror's name and billing address.

Item 2—Identify the mineral estate and, if acquired lands, percentage of Federal ownership of applied for minerals. Indicate the agency controlling the surface of the land and the name of the unit or project which the land is a part. The same offer may not include both Public Domain and Acquired lands. Offeror also may provide other information that will assist

in establishing title for minerals. The description of land must conform to 43 CFR 3110. A single parcel number and Sale Date shall be the only acceptable description during the period from the first day following the end of a competitive process until the end of that same month, using the parcel number on the List of Lands Available for Competitive Nominations or the Notice of Competitive Lease Sale, whichever is appropriate.

Payments: The amount needed must include the filing fee and the first year's rental in the rate of \$1-50 per acre or fraction thereof. The full rental based on the total acreage applied for must accompany an offer even if the mineral interest of the United States is less than 100 percent. The filing fee will be retained as a service charge even if the offer is completely rejected or withdrawn. To protect priority, it is important that the rental submitted be sufficient to cover all the land requested. If the land requested includes lots or irregular quarter-quarter sections, the exact area of which is not known to the office, rental should be submitted on the basis of each such lot or quarter-quarter section containing 40 acres. If the offer is withdrawn or rejected in whole or in part before a lease issues, the rental retained for the parts withdrawn or rejected will be returned.

Item 3—This space will be completed by the United States.

NOTICE

The Privacy Act of 1974 and the regulations in 43 CFR 2.48(d) provide that you be furnished with the following information in connection with information required by this oil and gas lease offer.

AUTHORITY: 30 U.S.C. 181 et seq.; 30 U.S.C. 351-399

PRINCIPAL PURPOSE: The information is to be used to process oil and gas offers and leases.

ROUTINE USES: (1) The adjudication of the lessee's rights in the land or resources. (2) Documentation for public information in support of activities made on land status records for the management, disposal, and use of public lands and resources. (3) Transfer to appropriate Federal agencies when consent or concurrence is required prior to granting a right in public lands or resources. (4) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION: If all the information is not provided, the offer may be rejected. See regulations at 43 CFR 3100.

The Paperwork Reduction Act of 1995 requires us to inform you that:

1. This information is being collected pursuant to the law.
2. This information will be used to create and maintain a record of oil and gas lease activity.
3. Response to this request is required to obtain a benefit.

BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOUR STATEMENT

Public reporting burden for this form is estimated to average 1 hour per request including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0143), Bureau Information Collection Clearance Office (WFO-530), 1849 C Street, N.W., Washington, D.C. 20240.

4. (g) Undesignated certifies that (1) offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States or of any State or Territory thereof; (2) all parties holding an interest in the offer are in compliance with 43 CFR 3100 and the leasing authority; (3) offeror's chargeable interests, direct and indirect, in such public domain and unappropriated lands are in the same State, do not exceed 240,000 acres in oil and gas leases (of which up to 200,000 acres may be in oil and gas options), or 200,000 acres in leases in such leasing District in Alaska of which up to 200,000 acres may be in options; (4) offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located; (5) offeror is in compliance with qualifications concerning Federal real lease holdings provided in sec. 2(a)(2)(A) of the Mineral Leasing Act; (6) offeror is in compliance with reclamation requirements for all Federal oil and gas lease holdings as required by sec. 17(g) of the Mineral Leasing Act; and (7) offeror is not in violation of sec. 41 of the Act.

(h) Undesignated agrees that signature to this offer constitutes acceptance of this lease, including all terms, conditions, and stipulations of which offeror has been given notice, and any amendment or expansion lease that may include any land described in this offer open to leasing at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or in part, unless the withdrawal is received by the proper BLM State Office below this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payments. 18 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Day executed this _____ day of _____, 20_____.

(Signature of Lessee or Attorney-in-fact)

LEASE TERMS

Sec. 1. Rentals—Rentals shall be paid to proper office of lessee in advance of each lease year. Annual rental rates per acre or fraction thereof are:

- (a) Noncompetitive lease, \$1.50 for the first 5 years; thereafter \$2.00;
- (b) Competitive lease, \$1.50 for the first 5 years; thereafter \$2.00;
- (c) Other, see attachments, or as specified in regulations at the time this lease is issued.

If this lease or a portion thereof is committed in an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, rentals shall be paid on the production allocated to this lease. However, annual rentals shall continue to be due at the rate specified in (a), (b), or (c) for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) shall automatically terminate this lease by operation of law. Rentals may be waived, reduced, or suspended by the Secretary upon a finding showing by lease.

Sec. 2. Royalties—Royalties shall be paid to proper office of lessee. Royalties shall be computed in accordance with regulations on production removed or sold. Royalty rates are:

- (a) Noncompetitive lease, 12 1/2 %;
- (b) Competitive lease, 12 1/2 %;
- (c) Other, see attachments, or as specified in regulations at the time this lease is issued.

Lessee reserves the right to specify whether royalty is to be paid in value or in kind, and the right to establish reasonable minimum values on products after giving lessee notice and an opportunity to be heard. When paid in value, royalties shall be due and payable on the last day of the month following the month in which production occurred. When paid in kind, production shall be delivered, unless otherwise agreed to by lessee, in merchantable condition on the premises where produced without cost to lessee. Lessee shall not be required to hold such production in storage beyond the last day of the month following the month in which production occurred, nor shall lessee be held liable for loss or destruction of royalty oil or other products in storage from causes beyond the reasonable control of lessee.

Minimum royalty in lieu of rental of not less than the rental which otherwise would be required for that lease year shall be payable at the end of each lease year beginning on or after a discovery in paying quantities. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced, for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

An interest charge shall be assessed on late royalty payments or underpayments in accordance with the Federal Oil and Gas Revenue Management Act of 1982 (FOGRMA) (30 U.S.C. 1704). Lessee shall be liable for royalty payments on oil and gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator, or due to the failure to comply with any rule, regulation, order, or citation issued under FOGRMA or the leasing authority.

Sec. 3. Bonds—A bond shall be filed and maintained for lease operations as required under regulations.

Sec. 4. Diligence, use of development, stimulation, and drainage—Lessee shall exercise reasonable diligence in developing and producing, and shall prevent unnecessary damage to, loss of, or waste of leased resources. Lessee reserves right to specify terms of development and production in the public interest and to require lessee to subscribe in a cooperative or unit plan, within 30 days of notice, if deemed necessary for proper development and operation of area. Hold, or pool embracing these leased lands. Lessee shall drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in amount determined by lessee.

Sec. 5. Documents, evidence, and inspection—Lessee shall file with proper office of lessee, not later than 30 days after effective date thereof, any contracts or evidence of other arrangements for sale or disposal of production. At such times and in such form as lessee may prescribe, lessee shall furnish detailed statements showing amounts and quality of all products removed and sold, proceeds therefrom, and amount used for production purposes or unavoidably lost. Lessee may be required to provide plan and accurate diagram showing development work and improvements, and reports with respect to parties in interest, expenditures, and depreciation costs. In the form prescribed by lessee, lessee shall keep a daily drilling record, a log, information on well surveys and tests, and a record of subsurface investigations and furnish copies to lessee when required. Lessee shall keep open at all reasonable times for inspection by any authorized officer of lessee, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee shall maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that supports

costs claimed as manufacturing, preparation, and/or transportation costs. All such records shall be maintained in lessee's accounting offices for future audit by lessee. Lessee shall maintain required records for 5 years after they are generated or, if an audit or investigation is underway, until release of the obligation to maintain such records by lessee.

During existence of this lease, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Sec. 6. Conduct of operations—Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by lessee to accomplish the intent of this section. To the extent consistent with lease rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessee reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-way. Such uses shall be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessee.

Prior to disturbing the surface of the leased lands, lessee shall consult lessee to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short-term special studies under guidelines provided by lessee. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee shall immediately contact lessee. Lessee shall cease any operations that would result in the destruction of such species or objects.

Sec. 7. Mining operations—To the extent that impacts from mining operations would be substantially different or greater than those associated with normal drilling operations, lessee reserves the right to deny approval of such operations.

Sec. 8. Extraction of helium—Lessee reserves the option of extracting or having extracted helium from gas production in a manner specified and by means provided by lessee at no expense or loss to lessee or owner of the gas. Lessee shall include in any contract of sale of gas the provisions of this section.

Sec. 9. Damages to property—Lessee shall pay lessee for damage to lessee's improvements, and shall save and hold lessee harmless from all claims for damage to persons or property as a result of lease operations.

Sec. 10. Protection of diverse interests and equal opportunities—Lessee shall: pay when due all taxes legally assessed and levied under laws of the State or the United States, except all-employee company fundations of purchase; pay all wages at least twice each month in lawful money of the United States, maintain a safe working environment in accordance with standard industry practices; and take measures necessary to protect the health and safety of the public.

Lessee reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly. If lessee operates a pipeline, or owns controlling interest in a pipeline or a company operating a pipeline, which may be operated accessible to oil derived from these leased lands, lessee shall comply with section 28 of the Mineral Leasing Act of 1920.

Lessee shall comply with Executive Order No. 11246 of September 24, 1965, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessee nor lessee's subcontractors shall maintain segregated facilities.

Sec. 11. Transfer of lease interests and relinquishment of lease—As required by regulations, lessee shall file with lessee any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which shall be effective as of the date of filing, subject to the continued obligation of the lessee and lessee to pay all accrued rentals and royalties.

Sec. 12. Delivery of premises—At such time as all or portions of this lease are returned to lessee, lessee shall place affected wells in condition for suspension or abandonment, reclaim the land as specified by lessee and, within a reasonable period of time, remove equipment and improvements not deemed necessary by lessee for preservation of productivity wells.

Sec. 13. Proceedings in case of default—If lessee fails to comply with any provisions of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation unless or until the lessee holds a well capable of production of oil or gas in paying quantities, or the lease is committed to an approved cooperative or unit plan or communitization agreement which contains a well capable of production of untaxed substances in paying quantities. This provision shall not be construed to prevent the exercise by lessee of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time. Lessee shall be subject to applicable provisions and penalties of FOGRMA (30 U.S.C. 1703).

Sec. 14. Heirs and successors-in-interest—Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to the heirs, executors, administrators, successors, beneficiaries, or assigns of the respective parties hereto.

Form 3109-1
(December 1972)
(formerly 3103-1)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

LEASE STIPULATIONS
BUREAU OF RECLAMATION

The lessee agrees to maintain, if required by the lessor during the period of this lease, including any extension thereof, an additional bond with qualified sureties in such sum as the lessor, if it considers that the bond required under Section 2(a) is insufficient, may at any time require:

(a) to pay for damages sustained by any reclamation homestead entryman to his crops or improvements caused by drilling or other operations of the lessee, such damages to include the reimbursement of the entryman by the lessee, when he uses or occupies the land of any homestead entryman, for all construction and operation and maintenance charges becoming due during such use or occupation upon any portion of the land so used and occupied;

(b) to pay any damage caused to any reclamation project or water supply thereof by the lessee's failure to comply fully with the requirements of this lease; and

(c) to recompense any nonmineral applicant, entryman, purchaser under the Act of May 16, 1930 (46 Stat. 367), or patentee for all damages to crops or to tangible improvements caused by drilling or other prospecting operation, where any of the lands covered by this lease are embraced in any nonmineral application, entry, or patent under rights initiated prior to the date of this lease, with a reservation of the oil deposits, to the United States pursuant to the Act of July 17, 1914 (38 Stat. 509).

As to any lands covered by this lease within the area of any Government reclamation project, or in proximity thereto, the lessee shall take such precautions as required by the irrigation under such project or to the water supply thereof; *provided* that drilling is prohibited on any constructed works or right-of-way of the Bureau of Reclamation, and *provided, further*, that there is reserved to the lessor, its successors and assigns, the superior and prior right at all times to construct, operate, and maintain dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, appurtenant irrigation structures, and reclamation works, in which construction, operation, and maintenance, the lessor, its successors and assigns, shall have the right to use any or all of the lands herein described without making compensation therefor, and shall not be responsible for any damage from the presence of water thereon or on account of ordinary, extraordinary, unexpected, or unprecedented floods. That nothing shall be done under this lease to increase the cost of, or interfere in any manner with, the construction, operation, and maintenance of such works. It is agreed by the lessee that, if the construction of any or all of said dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone or telegraph lines, electric transmission lines, roadways, appurtenant irrigation structures or reclamation works across, over, or upon said lands should be made more expensive by reason of the existence of the improvements and workings of the lessee thereon, said additional expense is to be estimated by the Secretary of the Interior, whose estimate is to be final and

binding upon the parties hereto, and that within thirty (30) days after demand is made upon the lessee for payment of any such sums, the lessee will make payment thereof to the United States, or its successors, constructing such dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, appurtenant irrigation structures, or reclamation works, across, over, or upon said lands; *provided, however*, that subject to advance written approval by the United States, the location and course of any improvements or works and appurtenances may be changed by the lessee; *provided, further*, that the reservations, agreements, and conditions contained in the within lease shall be and remain applicable notwithstanding any change in the location or course of said improvements or works of lessee. The lessee further agrees that the United States, its officers, agents, and employees, and its successors and assigns shall not be held liable for any damage to the improvements or workings of the lessee resulting from the construction, operation, and maintenance of any of the works hereinabove enumerated. Nothing in this paragraph shall be construed as in any manner limiting other reservations in favor of the United States contained in this lease.

THE LESSEE FURTHER AGREES That there is reserved to the lessor, its successors and assigns, the prior right to use any of the lands herein leased, to construct, operate, and maintain dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, or appurtenant irrigation structures, and also the right to remove construction materials therefrom, without any payment made by the lessor or its successors for such right, with the agreement on the part of the lessee that if the construction of any or all of such dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, or appurtenant irrigation structures across, over, or upon said lands or the removal of construction materials therefrom, should be made more expensive by reason of the existence of improvements or workings of the lessee thereon, such additional expense is to be estimated by the Secretary of the Interior, whose estimate is to be final and binding upon the parties hereto, and that within thirty (30) days after demand is made upon the lessee for payment of any such sums, the lessee will make payment thereof to the United States or its successors constructing such dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, or appurtenant irrigation structures across, over, or upon said lands or removing construction materials therefrom. The lessee further agrees that the lessor, its officers, agents, and employees and its successors and assigns shall not be held liable for any damage to the improvements or workings of the lessee resulting from the construction, operation, and maintenance of any of the works herein above enumerated. Nothing contained in this paragraph shall be construed as in any manner limiting other reservations in favor of the lessor contained in this lease.

To insure against the contamination of the waters of the _____ Reservoir,
_____, the lessee agrees that
_____ Project, State of _____, the following further conditions shall apply to all drilling and operations on lands covered by this lease,
which lie within the flowage or drainage area of the _____ Reservoir, as such area
is defined by the Bureau of Reclamation:

1. The drilling sites for any and all wells shall be approved by the Superintendent,
Bureau of Reclamation, _____ Project, _____ before
drilling begins. Sites for the construction of pipe-line rights-of-way or other authorized facilities shall also
be approved by the Superintendent before construction begins.

2. All drilling or operation methods or equipment shall, before their employment, be
inspected and approved by the Superintendent of the _____ Project,
_____, and by the supervisor of the U.S. Geological Survey having jurisdiction over the area.

GP-135
(02/91)

SPECIAL STIPULATION - BUREAU OF RECLAMATION

To avoid interference with recreation development and/or impacts to fish and wildlife habitat and to assist in preventing damage to any Bureau of Reclamation dams, reservoirs, canals, ditches, laterals, tunnels, and related facilities, and contamination of the water supply therein, the lessee agrees that the following conditions shall apply to all exploration and developmental activities and other operation of the works thereafter on lands covered by this lease:

1. Prior to commencement of any surface-disturbing work including drilling, access road work, and well location construction, a surface use and operations plan will be filed with the appropriate officials. A copy of this plan will be furnished to the Regional Director, Great Plains Region, Bureau of Reclamation, P.O. Box 36900, Billings, MT 59107-6900, for review and consent prior to approval of the plan. Such approval will be conditioned on reasonable requirements needed to prevent soil erosion, water pollution, and unnecessary damages to the surface vegetation and other resources, including cultural resources, of the United States, its lessees, permittees, or licensees, and to provide for the restoration of the land surface and vegetation. The plan shall contain provisions as the Bureau of Reclamation may deem necessary to maintain proper management of the water, recreation, lands structures, and resources, including cultural resources, within the prospecting drilling, or construction area.

Drilling sites for all wells and associated investigations such as seismograph work shall be included in the above-mentioned surface use and operation plan.

If later explorations require departure from or additions to the approved plan, these revisions or amendments, together with a justification statement for proposed revisions, will be submitted for approval to the Regional Director, Great Plains Region, Bureau of Reclamation, or his authorized representative.

Any operations conducted in advance of approval of an original, revised, or amended prospecting plan, or which are not in accordance with an approved plan constitute a violation of the terms of this lease. The Bureau of Reclamation reserves the right to close down operations until such corrective action, as is deemed necessary, is taken by the lessee.

2. No occupancy of the surface of the following excluded areas is authorized by this lease. It is understood and agreed that the use of these areas for Bureau of Reclamation purposes is superior to any other use. The following restrictions apply only to mineral tracts located within the boundary of a Bureau of Reclamation project where the United States owns 100 percent of the fee mineral interest.

- a. Within 500 feet on either side of the centerline of any and all roads or highways within the leased area.
- b. Within 200 feet on either side of the centerline of any and all trails within the leased area.
- c. Within 500 feet of the normal high-water line of any and all live streams in the leased area.
- d. Within 400 feet of any and all recreation developments within the leased area.
- e. Within 400 feet of any improvements either owned, permitted, leased, or otherwise authorized by the Bureau of Reclamation within the leased area.
- f. Within 200 feet of established crop fields, food plots, and tree/shrub plantings within the leased area.
- g. Within 200 feet of slopes steeper than a 2:1 gradient within the leased area.
- h. Within established rights-of-way of canals, laterals, and drainage ditches within the leased area.
- i. Within a minimum of 500 feet horizontal from the centerline of the facility or 50 feet from the outside toe of the canal, lateral, or drain embankment, whichever distance is greater, for irrigation facilities without clearly marked rights-of-way within the leased area.
- j. Providing that appropriate environmental compliance measures can be ensured, and providing further that Reclamation project works and other public interests can be protected, Reclamation may consider, on a case-by-case basis, waiving the requirement specified in Section 2 hereof. HOWEVER, LESSEES ARE ADVISED THAT OBTAINING SUCH A WAIVER CAN BE A DIFFICULT, TIME CONSUMING, AND COSTLY PROCESS WITH NO GUARANTEE THAT RECLAMATION WILL GRANT THE REQUESTED WAIVER.

3. No occupancy of the surface or surface drilling will be allowed in the following areas. In addition to, no directional drilling will be allowed that would intersect the subsurface zones delineated by a vertical plane in these areas. The following restrictions apply only to mineral tracts located within the boundary of a Bureau of Reclamation project where the United States owns 100% of the fee mineral interest.

a. Within 1,000 feet of the maximum water surface, as defined in the Standard Operating Procedures (SOP), of any reservoirs and related facilities located within the leased area.

b. Within 2,000 feet of dam embankments and appurtenance structures such as spillway structures, outlet works, etc.

c. Within one-half (1/2) mile horizontal from the centerline of any tunnel within the leased area.

d. Providing that appropriate environmental compliance measures can be ensured, and providing further that Reclamation project works and other public interests can be protected. Reclamation may consider, on a case-by-case basis, waiving the requirements specified in Section 3 hereof. HOWEVER, LESSEES ARE ADVISED THAT OBTAINING SUCH A WAIVER CAN BE A DIFFICULT, TIME CONSUMING, AND COSTLY PROCESS WITH NO GUARANTEE THAT RECLAMATION WILL GRANT THE REQUESTED WAIVER.

4. The distances stated in items 2 and 3 above are intended to be general indicators only. The Bureau of Reclamation reserves the right to revise these distances as needed to protect Bureau of Reclamation facilities.

5. The use of explosives in any manner shall be so controlled that the works and facilities of the United States, its successors and assigns, will in no way be endangered or damaged. In this connection, an explosives use plan shall be submitted to and approved by the Regional Director, Great Plains Region, Bureau of Reclamation, or his authorized representative.

6. The lessee shall be liable for all damage to the property of the United States, its successors and assigns, resulting from the exploration, development, or operation of the works contemplated by this lease, and shall further hold the United States, its successors and assigns, and its officers, agents, and employees, harmless from all claims of third parties for injury or damage sustained or in any way resulting from the exercise of the rights and privileges conferred by this lease.

7. The lessee shall be liable for all damage to crops or improvements of any entryman, nonmineral applicant, or patentee, their successors and assigns, caused by or resulting from the drilling or other operations of the lessee, including reimbursement of any entryman or patentee, their successors and assigns, for all construction, operation, and maintenance charges becoming due on any portion of their said lands damaged as a result of the drilling or other operations of the lessee.

8. In addition to any other bond required under the provisions of this lease, the lessee shall provide such bond as the United States may at any time require for damages which may arise under the liability provisions of sections six (6) and seven (7) above.